

Concho Operating

Lea County, NM (Nad 27)

White Falcon 16 State

White Falcon 16 State #12H

#12H

Design: #12H

Standard Survey Report

08 January, 2018



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Project	Lea County, NM (Nad 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	White Falcon 16 State			
Site Position:		Northing:	414,833.50 usft	Latitude: 32.137°N
From: Map		Easting:	795,654.00 usft	Longitude: 103.378°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.51 °

Well	White Falcon 16 State #12H			
Well Position	+N/-S	0.00 ft	Northing:	414,834.60 usft
	+E/-W	0.00 ft	Easting:	795,773.90 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level: 3,258.00 ft

Wellbore	#12H				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	9/1/2017	6.83	60.01	47,886.45647791

Design	#12H			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	179.48

Survey Program	Date 1/8/2018			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
100.00	11,512.00	Keeper Gyro (#12H)	Keeper	Keeper Standard Rate Gyro
11,602.00	22,232.00	DriiTech MWD - Curve & Lateral (#12H)	MWD	MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.21	50.13	100.00	0.12	0.14	-0.12	0.21	0.21	0.00
100'MD: Begin Scientific Keeper Gyro									
125.00	0.24	44.22	125.00	0.18	0.21	-0.18	0.15	0.12	-23.64
150.00	0.11	27.06	150.00	0.24	0.26	-0.24	0.55	-0.52	-68.64
175.00	0.18	65.10	175.00	0.28	0.31	-0.28	0.46	0.28	152.16
200.00	0.39	64.22	200.00	0.33	0.42	-0.33	0.84	0.84	-3.52
225.00	0.46	88.54	225.00	0.37	0.60	-0.37	0.77	0.28	97.28
250.00	0.54	82.43	250.00	0.39	0.81	-0.38	0.38	0.32	-24.44
275.00	0.69	88.52	275.00	0.41	1.08	-0.40	0.65	0.60	24.36



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
300.00	0.83	91.62	299.99	0.41	1.41	-0.40	0.58	0.56	12.40	
325.00	0.97	91.87	324.99	0.40	1.80	-0.38	0.56	0.56	1.00	
350.00	1.04	92.15	349.99	0.38	2.24	-0.36	0.28	0.28	1.12	
375.00	1.07	91.34	374.98	0.37	2.70	-0.34	0.13	0.12	-3.24	
400.00	1.13	93.54	399.98	0.35	3.18	-0.32	0.29	0.24	8.80	
425.00	1.20	90.85	424.97	0.33	3.69	-0.30	0.36	0.28	-10.76	
450.00	1.23	92.50	449.97	0.31	4.22	-0.28	0.18	0.12	6.60	
475.00	1.45	90.72	474.96	0.30	4.80	-0.25	0.90	0.88	-7.12	
500.00	1.46	93.35	499.95	0.28	5.44	-0.23	0.27	0.04	10.52	
525.00	1.58	92.25	524.94	0.24	6.10	-0.19	0.49	0.48	-4.40	
550.00	1.72	92.42	549.93	0.21	6.82	-0.15	0.56	0.56	0.68	
575.00	1.80	90.78	574.92	0.19	7.59	-0.12	0.38	0.32	-6.56	
600.00	1.83	89.93	599.91	0.19	8.38	-0.11	0.16	0.12	-3.40	
625.00	1.79	90.91	624.90	0.18	9.17	-0.10	0.20	-0.16	3.92	
650.00	1.77	89.97	649.88	0.18	9.94	-0.09	0.14	-0.08	-3.76	
675.00	1.83	89.62	674.87	0.18	10.73	-0.08	0.24	0.24	-1.40	
700.00	1.81	87.28	699.86	0.20	11.52	-0.10	0.31	-0.08	-9.36	
725.00	1.85	86.34	724.85	0.24	12.32	-0.13	0.20	0.16	-3.76	
750.00	1.81	85.90	749.83	0.30	13.12	-0.18	0.17	-0.16	-1.76	
775.00	1.89	85.81	774.82	0.36	13.92	-0.23	0.32	0.32	-0.36	
800.00	1.86	83.86	799.81	0.43	14.74	-0.30	0.28	-0.12	-7.80	
825.00	1.91	79.75	824.79	0.55	15.55	-0.41	0.58	0.20	-16.44	
850.00	2.02	79.38	849.78	0.70	16.39	-0.55	0.44	0.44	-1.48	
875.00	2.10	77.59	874.76	0.88	17.27	-0.73	0.41	0.32	-7.16	
900.00	2.17	75.12	899.75	1.10	18.18	-0.94	0.46	0.28	-9.88	
925.00	2.36	70.14	924.73	1.40	19.12	-1.23	1.09	0.76	-19.92	
950.00	2.43	70.81	949.70	1.75	20.10	-1.57	0.30	0.28	2.68	
975.00	2.39	69.99	974.68	2.10	21.09	-1.91	0.21	-0.16	-3.28	
1,000.00	2.44	70.83	999.66	2.45	22.09	-2.25	0.25	0.20	3.36	
1,025.00	2.43	70.96	1,024.64	2.80	23.09	-2.59	0.05	-0.04	0.52	
1,050.00	2.41	70.27	1,049.62	3.15	24.09	-2.93	0.14	-0.08	-2.76	
1,075.00	2.41	71.46	1,074.59	3.50	25.08	-3.27	0.20	0.00	4.76	
1,100.00	2.46	69.58	1,099.57	3.85	26.08	-3.61	0.38	0.20	-7.52	
1,125.00	2.44	69.69	1,124.55	4.22	27.08	-3.98	0.08	-0.08	0.44	
1,150.00	2.49	71.03	1,149.52	4.58	28.10	-4.33	0.31	0.20	5.36	
1,175.00	2.45	70.51	1,174.50	4.94	29.11	-4.67	0.18	-0.16	-2.08	
1,200.00	2.44	70.41	1,199.48	5.30	30.12	-5.02	0.04	-0.04	-0.40	
1,225.00	2.46	70.82	1,224.46	5.65	31.13	-5.37	0.11	0.08	1.64	
1,250.00	2.40	71.38	1,249.43	5.99	32.13	-5.70	0.26	-0.24	2.24	
1,275.00	2.14	69.45	1,274.41	6.33	33.06	-6.02	1.08	-1.04	-7.72	
1,300.00	1.66	63.15	1,299.40	6.65	33.82	-6.35	2.09	-1.92	-25.20	
1,325.00	1.52	58.45	1,324.39	6.99	34.43	-6.68	0.76	-0.56	-18.80	
1,350.00	1.28	53.36	1,349.38	7.33	34.93	-7.01	1.08	-0.96	-20.36	



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,375.00	1.19	50.94	1,374.38	7.66	35.36	-7.34	0.42	-0.36	-9.68
1,400.00	1.23	50.78	1,399.37	7.99	35.77	-7.67	0.16	0.16	-0.64
1,425.00	1.26	50.00	1,424.37	8.34	36.19	-8.01	0.14	0.12	-3.12
1,450.00	1.22	51.53	1,449.36	8.68	36.61	-8.35	0.21	-0.16	6.12
1,475.00	1.28	67.01	1,474.35	8.96	37.07	-8.62	1.37	0.24	61.92
1,500.00	1.34	78.36	1,499.35	9.12	37.62	-8.78	1.06	0.24	45.40
1,525.00	1.45	86.84	1,524.34	9.20	38.22	-8.85	0.93	0.44	33.92
1,550.00	1.57	91.48	1,549.33	9.21	38.88	-8.86	0.68	0.48	18.56
1,575.00	1.58	90.85	1,574.32	9.20	39.56	-8.84	0.08	0.04	-2.52
1,600.00	1.51	92.71	1,599.31	9.17	40.24	-8.81	0.34	-0.28	7.44
1,625.00	1.58	89.66	1,624.30	9.16	40.91	-8.79	0.43	0.28	-12.20
1,650.00	1.45	92.33	1,649.29	9.15	41.57	-8.77	0.59	-0.52	10.68
1,675.00	1.15	96.87	1,674.29	9.11	42.14	-8.72	1.27	-1.20	18.16
1,700.00	1.02	101.84	1,699.28	9.03	42.60	-8.64	0.64	-0.52	19.88
1,725.00	1.06	100.48	1,724.28	8.94	43.05	-8.55	0.19	0.16	-5.44
1,750.00	1.04	102.44	1,749.28	8.85	43.50	-8.46	0.16	-0.08	7.84
1,775.00	0.99	104.48	1,774.27	8.75	43.93	-8.35	0.25	-0.20	8.16
1,800.00	1.01	99.62	1,799.27	8.66	44.35	-8.26	0.35	0.08	-19.44
1,825.00	1.07	98.62	1,824.26	8.59	44.80	-8.18	0.25	0.24	-4.00
1,850.00	0.96	104.47	1,849.26	8.50	45.24	-8.09	0.60	-0.44	23.40
1,875.00	1.02	103.61	1,874.26	8.40	45.65	-7.98	0.25	0.24	-3.44
1,900.00	0.97	103.78	1,899.25	8.29	46.08	-7.87	0.20	-0.20	0.68
1,925.00	1.04	99.93	1,924.25	8.20	46.51	-7.78	0.39	0.28	-15.40
1,950.00	1.05	101.03	1,949.24	8.12	46.95	-7.69	0.09	0.04	4.40
1,975.00	1.01	103.06	1,974.24	8.03	47.39	-7.60	0.22	-0.16	8.12
2,000.00	1.07	99.62	1,999.24	7.94	47.84	-7.50	0.35	0.24	-13.76
2,025.00	1.04	97.37	2,024.23	7.87	48.29	-7.43	0.20	-0.12	-9.00
2,050.00	1.04	100.93	2,049.23	7.80	48.74	-7.36	0.26	0.00	14.24
2,075.00	1.12	97.43	2,074.22	7.72	49.21	-7.28	0.41	0.32	-14.00
2,100.00	1.15	95.00	2,099.22	7.67	49.70	-7.22	0.23	0.12	-9.72
2,125.00	1.10	84.93	2,124.21	7.67	50.19	-7.21	0.81	-0.20	-40.28
2,150.00	1.12	67.66	2,149.21	7.78	50.65	-7.32	1.34	0.08	-69.08
2,175.00	1.43	54.75	2,174.20	8.06	51.13	-7.59	1.68	1.24	-51.64
2,200.00	1.39	54.16	2,199.20	8.41	51.63	-7.94	0.17	-0.16	-2.36
2,225.00	1.25	49.68	2,224.19	8.77	52.09	-8.29	0.70	-0.56	-17.92
2,250.00	1.31	51.69	2,249.18	9.12	52.52	-8.64	0.30	0.24	8.04
2,275.00	1.33	53.28	2,274.18	9.47	52.98	-8.99	0.17	0.08	6.36
2,300.00	1.36	53.08	2,299.17	9.82	53.45	-9.34	0.12	0.12	-0.80
2,325.00	1.24	63.38	2,324.16	10.12	53.92	-9.63	1.05	-0.48	41.20
2,350.00	1.18	77.85	2,349.16	10.30	54.42	-9.80	1.24	-0.24	57.88
2,375.00	1.19	87.53	2,374.15	10.36	54.93	-9.86	0.80	0.04	38.72
2,400.00	1.10	94.77	2,399.15	10.35	55.43	-9.85	0.68	-0.36	28.96
2,425.00	1.12	93.21	2,424.14	10.32	55.91	-9.81	0.14	0.08	-6.24



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,450.00	1.09	92.12	2,449.14	10.30	56.39	-9.79	0.15	-0.12	-4.36
2,475.00	1.09	93.48	2,474.13	10.28	56.87	-9.76	0.10	0.00	5.44
2,500.00	1.11	95.62	2,499.13	10.24	57.35	-9.72	0.18	0.08	8.56
2,525.00	1.16	94.88	2,524.12	10.19	57.84	-9.67	0.21	0.20	-2.96
2,550.00	1.20	94.14	2,549.12	10.15	58.35	-9.62	0.17	0.16	-2.96
2,575.00	1.24	95.20	2,574.11	10.11	58.88	-9.57	0.18	0.16	4.24
2,600.00	1.27	96.76	2,599.11	10.05	59.43	-9.51	0.18	0.12	6.24
2,625.00	1.28	94.28	2,624.10	10.00	59.98	-9.45	0.22	0.04	-9.92
2,650.00	1.21	98.59	2,649.09	9.94	60.52	-9.39	0.47	-0.28	17.24
2,675.00	1.22	96.53	2,674.09	9.87	61.05	-9.31	0.18	0.04	-8.24
2,700.00	1.23	97.92	2,699.08	9.80	61.58	-9.24	0.13	0.04	5.56
2,725.00	1.22	97.04	2,724.08	9.73	62.11	-9.17	0.09	-0.04	-3.52
2,750.00	1.21	95.74	2,749.07	9.67	62.63	-9.10	0.12	-0.04	-5.20
2,775.00	1.25	94.84	2,774.07	9.62	63.17	-9.05	0.18	0.16	-3.60
2,800.00	1.08	99.51	2,799.06	9.56	63.67	-8.98	0.78	-0.68	18.68
2,825.00	0.96	101.01	2,824.06	9.48	64.11	-8.90	0.49	-0.48	6.00
2,850.00	0.89	100.20	2,849.05	9.41	64.51	-8.82	0.28	-0.28	-3.24
2,875.00	0.82	104.99	2,874.05	9.33	64.87	-8.74	0.40	-0.28	19.16
2,900.00	0.79	97.88	2,899.05	9.26	65.21	-8.66	0.42	-0.12	-28.44
2,925.00	0.92	101.64	2,924.05	9.19	65.58	-8.60	0.57	0.52	15.04
2,950.00	0.85	103.27	2,949.04	9.11	65.96	-8.51	0.30	-0.28	6.52
2,975.00	0.83	93.90	2,974.04	9.05	66.32	-8.45	0.55	-0.08	-37.48
3,000.00	0.61	84.28	2,999.04	9.06	66.63	-8.45	1.00	-0.88	-38.48
3,025.00	0.61	70.87	3,024.04	9.11	66.89	-8.51	0.57	0.00	-53.64
3,050.00	0.62	65.32	3,049.03	9.21	67.14	-8.60	0.24	0.04	-22.20
3,075.00	0.67	61.82	3,074.03	9.34	67.39	-8.73	0.25	0.20	-14.00
3,100.00	0.62	61.76	3,099.03	9.47	67.64	-8.86	0.20	-0.20	-0.24
3,125.00	0.55	61.41	3,124.03	9.59	67.86	-8.98	0.28	-0.28	-1.40
3,150.00	0.73	63.37	3,149.03	9.72	68.11	-9.10	0.73	0.72	7.84
3,175.00	0.66	64.41	3,174.03	9.85	68.38	-9.23	0.28	-0.28	4.16
3,200.00	0.84	62.90	3,199.02	10.00	68.68	-9.38	0.72	0.72	-6.04
3,225.00	0.82	58.85	3,224.02	10.18	68.99	-9.55	0.25	-0.08	-16.20
3,250.00	0.75	67.87	3,249.02	10.33	69.30	-9.70	0.57	-0.28	36.08
3,275.00	0.76	61.61	3,274.02	10.47	69.59	-9.84	0.33	0.04	-25.04
3,300.00	0.87	56.74	3,299.02	10.65	69.90	-10.02	0.52	0.44	-19.48
3,325.00	0.77	58.03	3,324.01	10.85	70.20	-10.21	0.41	-0.40	5.16
3,350.00	0.86	66.48	3,349.01	11.01	70.51	-10.37	0.60	0.36	33.80
3,375.00	0.83	65.04	3,374.01	11.16	70.85	-10.52	0.15	-0.12	-5.76
3,400.00	0.83	66.36	3,399.00	11.31	71.18	-10.66	0.08	0.00	5.28
3,425.00	0.98	60.92	3,424.00	11.49	71.53	-10.84	0.69	0.60	-21.76
3,450.00	0.93	60.26	3,449.00	11.69	71.90	-11.04	0.20	-0.20	-2.64
3,475.00	0.98	61.78	3,473.99	11.89	72.26	-11.24	0.22	0.20	6.08
3,500.00	0.94	64.11	3,498.99	12.08	72.63	-11.43	0.22	-0.16	9.32
3,525.00	1.09	64.07	3,523.99	12.28	73.03	-11.62	0.60	0.60	-0.16



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,550.00	1.15	64.23	3,548.98	12.49	73.47	-11.82	0.24	0.24	0.64
3,575.00	1.23	61.91	3,573.98	12.73	73.93	-12.06	0.37	0.32	-9.28
3,600.00	1.31	65.86	3,598.97	12.97	74.43	-12.29	0.47	0.32	15.80
3,625.00	1.26	64.32	3,623.96	13.21	74.94	-12.53	0.24	-0.20	-6.16
3,650.00	1.22	67.01	3,648.96	13.43	75.43	-12.74	0.28	-0.16	10.76
3,675.00	1.20	66.38	3,673.95	13.64	75.92	-12.95	0.10	-0.08	-2.52
3,700.00	1.23	62.63	3,698.95	13.87	76.40	-13.17	0.34	0.12	-15.00
3,725.00	1.32	64.64	3,723.94	14.11	76.89	-13.41	0.40	0.36	8.04
3,750.00	1.11	67.08	3,748.94	14.33	77.38	-13.63	0.86	-0.84	9.76
3,775.00	1.06	65.97	3,773.93	14.52	77.81	-13.81	0.22	-0.20	-4.44
3,800.00	0.89	63.85	3,798.93	14.70	78.20	-13.99	0.70	-0.68	-8.48
3,825.00	0.78	55.51	3,823.93	14.88	78.51	-14.17	0.65	-0.44	-33.36
3,850.00	0.71	30.60	3,848.92	15.11	78.73	-14.40	1.31	-0.28	-99.64
3,875.00	0.73	15.70	3,873.92	15.40	78.85	-14.68	0.75	0.08	-59.60
3,900.00	0.74	12.38	3,898.92	15.71	78.93	-14.99	0.17	0.04	-13.28
3,925.00	0.79	9.95	3,923.92	16.04	78.99	-15.32	0.24	0.20	-9.72
3,950.00	0.81	15.43	3,948.91	16.38	79.07	-15.66	0.32	0.08	21.92
3,975.00	0.79	17.66	3,973.91	16.71	79.17	-15.99	0.15	-0.08	8.92
4,000.00	0.81	18.51	3,998.91	17.04	79.28	-16.32	0.09	0.08	3.40
4,025.00	0.79	38.35	4,023.91	17.34	79.44	-16.62	1.11	-0.08	79.36
4,050.00	0.92	52.13	4,048.90	17.60	79.71	-16.88	0.97	0.52	55.12
4,075.00	1.09	63.29	4,073.90	17.83	80.08	-17.11	1.03	0.68	44.64
4,100.00	1.11	69.06	4,098.90	18.03	80.52	-17.29	0.45	0.08	23.08
4,125.00	1.16	69.06	4,123.89	18.20	80.98	-17.47	0.20	0.20	0.00
4,150.00	1.11	73.22	4,148.89	18.36	81.45	-17.62	0.39	-0.20	16.64
4,175.00	1.22	72.51	4,173.88	18.51	81.93	-17.77	0.44	0.44	-2.84
4,200.00	1.28	76.29	4,198.87	18.66	82.46	-17.91	0.41	0.24	15.12
4,225.00	1.25	76.63	4,223.87	18.79	83.00	-18.04	0.12	-0.12	1.36
4,250.00	1.31	80.04	4,248.86	18.90	83.54	-18.14	0.39	0.24	13.64
4,275.00	1.27	83.80	4,273.86	18.98	84.10	-18.22	0.37	-0.16	15.04
4,300.00	1.48	87.00	4,298.85	19.03	84.70	-18.26	0.89	0.84	12.80
4,325.00	1.45	91.81	4,323.84	19.03	85.34	-18.26	0.51	-0.12	19.24
4,350.00	1.50	92.84	4,348.83	19.01	85.98	-18.23	0.23	0.20	4.12
4,375.00	1.52	94.53	4,373.82	18.97	86.64	-18.18	0.20	0.08	6.76
4,400.00	1.36	98.34	4,398.82	18.90	87.26	-18.10	0.75	-0.64	15.24
4,425.00	1.06	106.14	4,423.81	18.79	87.78	-17.99	1.37	-1.20	31.20
4,450.00	0.98	114.61	4,448.81	18.64	88.19	-17.83	0.68	-0.32	33.88
4,475.00	0.87	114.63	4,473.80	18.47	88.56	-17.66	0.44	-0.44	0.08
4,500.00	0.95	113.22	4,498.80	18.31	88.92	-17.50	0.33	0.32	-5.64
4,525.00	0.98	109.69	4,523.80	18.15	89.31	-17.34	0.27	0.12	-14.12
4,550.00	0.89	113.32	4,548.79	18.00	89.69	-17.19	0.43	-0.36	14.52
4,575.00	0.92	113.86	4,573.79	17.85	90.05	-17.03	0.12	0.12	2.16
4,600.00	0.90	111.62	4,598.79	17.69	90.42	-16.87	0.16	-0.08	-8.96



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,625.00	1.11	109.20	4,623.78	17.54	90.83	-16.72	0.86	0.84	-9.68
4,650.00	1.32	106.80	4,648.78	17.38	91.34	-16.55	0.86	0.84	-9.60
4,675.00	1.53	104.68	4,673.77	17.21	91.93	-16.38	0.87	0.84	-8.48
4,700.00	1.68	104.87	4,698.76	17.03	92.61	-16.19	0.60	0.60	0.76
4,725.00	1.61	104.26	4,723.75	16.85	93.31	-16.00	0.29	-0.28	-2.44
4,750.00	1.63	106.91	4,748.74	16.66	93.99	-15.81	0.31	0.08	10.60
4,775.00	1.69	105.11	4,773.73	16.46	94.68	-15.60	0.32	0.24	-7.20
4,800.00	1.65	104.67	4,798.72	16.27	95.39	-15.41	0.17	-0.16	-1.76
4,825.00	1.66	106.53	4,823.71	16.08	96.08	-15.21	0.22	0.04	7.44
4,850.00	1.65	105.14	4,848.70	15.88	96.78	-15.00	0.17	-0.04	-5.56
4,875.00	0.94	113.42	4,873.69	15.71	97.31	-14.82	2.93	-2.84	33.12
4,900.00	0.46	123.38	4,898.69	15.57	97.58	-14.68	1.97	-1.92	39.84
4,925.00	0.23	133.41	4,923.69	15.48	97.71	-14.59	0.95	-0.92	40.12
4,950.00	0.19	128.16	4,948.69	15.42	97.77	-14.53	0.18	-0.16	-21.00
4,975.00	0.21	130.32	4,973.69	15.37	97.84	-14.48	0.09	0.08	8.64
5,000.00	0.19	132.06	4,998.69	15.31	97.91	-14.42	0.08	-0.08	6.96
5,025.00	0.11	147.71	5,023.69	15.26	97.95	-14.37	0.36	-0.32	62.60
5,050.00	0.13	114.46	5,048.69	15.23	97.99	-14.34	0.29	0.08	-133.00
5,075.00	0.16	135.29	5,073.69	15.19	98.04	-14.30	0.24	0.12	83.32
5,100.00	0.13	115.23	5,098.69	15.16	98.09	-14.26	0.23	-0.12	-80.24
5,125.00	0.07	152.91	5,123.69	15.13	98.12	-14.24	0.34	-0.24	150.72
5,150.00	0.04	123.03	5,148.69	15.11	98.14	-14.22	0.16	-0.12	-119.52
5,175.00	0.04	167.71	5,173.69	15.10	98.15	-14.21	0.12	0.00	178.72
5,200.00	0.03	160.81	5,198.69	15.08	98.15	-14.19	0.04	-0.04	-27.60
5,225.00	0.05	182.32	5,223.69	15.07	98.15	-14.17	0.10	0.08	-86.04
5,250.00	0.11	228.61	5,248.69	15.04	98.13	-14.15	0.33	0.24	185.16
5,275.00	0.10	255.90	5,273.69	15.02	98.09	-14.13	0.20	-0.04	109.16
5,300.00	0.13	253.97	5,298.69	15.00	98.05	-14.11	0.12	0.12	-7.72
5,325.00	0.08	224.57	5,323.69	14.98	98.01	-14.09	0.29	-0.20	-117.60
5,350.00	0.13	231.12	5,348.69	14.95	97.97	-14.06	0.21	0.20	26.20
5,375.00	0.07	215.88	5,373.69	14.92	97.94	-14.03	0.26	-0.24	-60.96
5,400.00	0.04	201.88	5,398.69	14.90	97.93	-14.01	0.13	-0.12	-56.00
5,425.00	0.14	233.68	5,423.69	14.88	97.90	-13.99	0.43	0.40	127.20
5,450.00	0.08	213.31	5,448.69	14.84	97.87	-13.96	0.28	-0.24	-81.48
5,475.00	0.17	217.56	5,473.69	14.80	97.83	-13.91	0.36	0.36	17.00
5,500.00	0.18	229.18	5,498.69	14.75	97.78	-13.86	0.15	0.04	46.48
5,525.00	0.18	227.73	5,523.69	14.69	97.72	-13.81	0.02	0.00	-5.80
5,550.00	0.20	250.56	5,548.69	14.65	97.65	-13.77	0.31	0.08	91.32
5,575.00	0.13	233.22	5,573.69	14.62	97.59	-13.73	0.34	-0.28	-69.36
5,600.00	0.18	237.79	5,598.69	14.58	97.53	-13.70	0.21	0.20	18.28
5,625.00	0.15	232.87	5,623.69	14.54	97.47	-13.66	0.13	-0.12	-19.68
5,650.00	0.18	252.83	5,648.69	14.51	97.41	-13.63	0.26	0.12	79.84
5,675.00	0.10	225.02	5,673.69	14.48	97.36	-13.60	0.41	-0.32	-111.24



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,700.00	0.31	237.35	5,698.69	14.43	97.29	-13.55	0.85	0.84	49.32
5,725.00	0.11	77.99	5,723.69	14.40	97.25	-13.52	1.66	-0.80	-637.44
5,750.00	0.16	146.73	5,748.69	14.38	97.29	-13.49	0.63	0.20	274.96
5,775.00	0.26	238.01	5,773.69	14.32	97.27	-13.43	1.23	0.40	365.12
5,800.00	0.32	242.33	5,798.69	14.25	97.16	-13.37	0.26	0.24	17.28
5,825.00	0.20	229.42	5,823.69	14.19	97.06	-13.31	0.53	-0.48	-51.64
5,850.00	0.28	232.30	5,848.69	14.13	96.98	-13.25	0.32	0.32	11.52
5,875.00	0.30	245.75	5,873.69	14.06	96.87	-13.18	0.28	0.08	53.80
5,900.00	0.25	247.46	5,898.68	14.02	96.76	-13.14	0.20	-0.20	6.84
5,925.00	0.22	231.14	5,923.68	13.97	96.67	-13.09	0.29	-0.12	-65.28
5,950.00	0.34	237.76	5,948.68	13.90	96.57	-13.02	0.50	0.48	26.48
5,975.00	0.33	234.55	5,973.68	13.81	96.45	-12.94	0.09	-0.04	-12.84
6,000.00	0.21	221.78	5,998.68	13.74	96.36	-12.86	0.53	-0.48	-51.08
6,025.00	0.29	241.05	6,023.68	13.67	96.28	-12.80	0.46	0.32	77.08
6,050.00	0.31	243.30	6,048.68	13.61	96.16	-12.74	0.09	0.08	9.00
6,075.00	0.33	238.87	6,073.68	13.55	96.04	-12.67	0.13	0.08	-17.72
6,100.00	0.36	254.30	6,098.68	13.49	95.90	-12.62	0.39	0.12	61.72
6,125.00	0.29	232.81	6,123.68	13.43	95.78	-12.56	0.56	-0.28	-85.96
6,150.00	0.33	242.10	6,148.68	13.36	95.66	-12.49	0.26	0.16	37.16
6,175.00	0.36	235.35	6,173.68	13.28	95.53	-12.41	0.20	0.12	-27.00
6,200.00	0.30	236.45	6,198.68	13.20	95.41	-12.33	0.24	-0.24	4.40
6,225.00	0.33	249.50	6,223.68	13.13	95.29	-12.27	0.31	0.12	52.20
6,250.00	0.26	222.01	6,248.68	13.07	95.19	-12.20	0.62	-0.28	-109.96
6,275.00	0.29	229.74	6,273.68	12.98	95.10	-12.12	0.19	0.12	30.92
6,300.00	0.21	222.58	6,298.68	12.91	95.02	-12.05	0.34	-0.32	-28.64
6,325.00	0.29	236.31	6,323.68	12.84	94.94	-11.98	0.40	0.32	54.92
6,350.00	0.22	236.78	6,348.68	12.78	94.84	-11.92	0.28	-0.28	1.88
6,375.00	0.18	256.45	6,373.68	12.74	94.77	-11.88	0.32	-0.16	78.68
6,400.00	0.10	351.50	6,398.68	12.76	94.73	-11.90	0.85	-0.32	380.20
6,425.00	0.14	39.94	6,423.68	12.80	94.74	-11.94	0.42	0.16	193.76
6,450.00	0.12	333.52	6,448.68	12.85	94.75	-11.99	0.57	-0.08	-265.68
6,475.00	0.23	25.44	6,473.68	12.92	94.76	-12.06	0.73	0.44	207.68
6,500.00	0.35	29.36	6,498.68	13.03	94.82	-12.17	0.49	0.48	15.68
6,525.00	0.44	25.17	6,523.68	13.18	94.90	-12.32	0.38	0.36	-16.76
6,550.00	0.44	22.39	6,548.68	13.36	94.97	-12.50	0.09	0.00	-11.12
6,575.00	0.61	35.21	6,573.68	13.56	95.09	-12.69	0.82	0.68	51.28
6,600.00	0.72	41.30	6,598.67	13.78	95.27	-12.92	0.52	0.44	24.36
6,625.00	0.74	43.80	6,623.67	14.02	95.48	-13.15	0.15	0.08	10.00
6,650.00	0.73	38.94	6,648.67	14.26	95.69	-13.39	0.25	-0.04	-19.44
6,675.00	0.78	39.91	6,673.67	14.51	95.90	-13.64	0.21	0.20	3.88
6,700.00	0.76	38.04	6,698.67	14.77	96.12	-13.90	0.13	-0.08	-7.48
6,725.00	0.76	45.13	6,723.66	15.02	96.34	-14.15	0.38	0.00	28.36
6,750.00	0.82	45.90	6,748.66	15.26	96.58	-14.38	0.24	0.24	3.08
6,775.00	0.78	44.83	6,773.66	15.51	96.83	-14.63	0.17	-0.16	-4.28



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,800.00	0.79	43.76	6,798.66	15.75	97.07	-14.87	0.07	0.04	-4.28	
6,825.00	0.80	40.29	6,823.65	16.01	97.30	-15.13	0.20	0.04	-13.88	
6,850.00	0.96	44.26	6,848.65	16.29	97.56	-15.41	0.68	0.64	15.88	
6,875.00	1.15	53.83	6,873.65	16.59	97.91	-15.70	1.03	0.76	38.28	
6,900.00	1.13	52.60	6,898.64	16.89	98.31	-16.00	0.13	-0.08	-4.92	
6,925.00	1.18	51.18	6,923.64	17.20	98.70	-16.30	0.23	0.20	-5.68	
6,950.00	1.11	53.17	6,948.63	17.51	99.10	-16.61	0.32	-0.28	7.96	
6,975.00	1.16	56.21	6,973.63	17.79	99.50	-16.89	0.31	0.20	12.16	
7,000.00	1.16	54.41	6,998.62	18.08	99.92	-17.17	0.15	0.00	-7.20	
7,025.00	1.19	55.47	7,023.62	18.37	100.34	-17.46	0.15	0.12	4.24	
7,050.00	1.18	56.22	7,048.61	18.66	100.77	-17.75	0.07	-0.04	3.00	
7,075.00	1.15	53.13	7,073.61	18.96	101.18	-18.04	0.28	-0.12	-12.36	
7,100.00	1.16	53.95	7,098.60	19.26	101.59	-18.33	0.08	0.04	3.28	
7,125.00	1.21	57.22	7,123.60	19.55	102.01	-18.62	0.34	0.20	13.08	
7,150.00	1.10	55.25	7,148.59	19.83	102.43	-18.90	0.47	-0.44	-7.88	
7,175.00	1.22	53.79	7,173.59	20.12	102.84	-19.19	0.49	0.48	-5.84	
7,200.00	1.21	50.94	7,198.58	20.45	103.26	-19.51	0.24	-0.04	-11.40	
7,225.00	1.26	54.84	7,223.57	20.77	103.69	-19.83	0.39	0.20	15.60	
7,250.00	1.20	54.47	7,248.57	21.08	104.13	-20.14	0.24	-0.24	-1.48	
7,275.00	1.13	52.28	7,273.56	21.38	104.54	-20.44	0.33	-0.28	-8.76	
7,300.00	1.19	56.58	7,298.56	21.68	104.95	-20.73	0.42	0.24	17.20	
7,325.00	1.18	53.64	7,323.55	21.97	105.37	-21.02	0.25	-0.04	-11.76	
7,350.00	1.14	49.50	7,348.55	22.29	105.77	-21.33	0.37	-0.16	-16.56	
7,375.00	1.15	44.00	7,373.54	22.63	106.13	-21.67	0.44	0.04	-22.00	
7,400.00	1.13	46.25	7,398.54	22.98	106.49	-22.01	0.20	-0.08	9.00	
7,425.00	1.17	46.09	7,423.53	23.33	106.85	-22.36	0.16	0.16	-0.64	
7,450.00	1.15	49.80	7,448.53	23.67	107.22	-22.69	0.31	-0.08	14.84	
7,475.00	1.24	50.58	7,473.52	24.00	107.62	-23.02	0.37	0.36	3.12	
7,500.00	1.09	44.01	7,498.52	24.34	108.00	-23.36	0.80	-0.60	-26.28	
7,525.00	1.13	46.70	7,523.51	24.68	108.34	-23.70	0.26	0.16	10.76	
7,550.00	1.19	46.44	7,548.51	25.03	108.71	-24.04	0.24	0.24	-1.04	
7,575.00	1.10	48.68	7,573.50	25.37	109.08	-24.38	0.40	-0.36	8.96	
7,600.00	1.09	47.94	7,598.50	25.69	109.44	-24.69	0.07	-0.04	-2.96	
7,625.00	1.08	49.02	7,623.49	26.00	109.79	-25.00	0.09	-0.04	4.32	
7,650.00	1.04	47.47	7,648.49	26.31	110.13	-25.31	0.20	-0.16	-6.20	
7,675.00	1.07	49.94	7,673.48	26.61	110.48	-25.61	0.22	0.12	9.88	
7,700.00	1.04	45.00	7,698.48	26.92	110.82	-25.92	0.38	-0.12	-19.76	
7,725.00	1.05	54.89	7,723.48	27.22	111.17	-26.21	0.72	0.04	39.56	
7,750.00	1.11	58.94	7,748.47	27.47	111.56	-26.46	0.39	0.24	16.20	
7,775.00	1.07	61.09	7,773.47	27.71	111.97	-26.69	0.23	-0.16	8.60	
7,800.00	1.07	61.15	7,798.46	27.94	112.38	-26.91	0.00	0.00	0.24	
7,825.00	1.05	66.45	7,823.46	28.14	112.80	-27.11	0.40	-0.08	21.20	
7,850.00	1.14	59.81	7,848.45	28.36	113.22	-27.33	0.62	0.36	-26.56	



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,875.00	1.02	61.62	7,873.45	28.59	113.63	-27.55	0.50	-0.48	7.24
7,900.00	1.04	60.87	7,898.45	28.80	114.03	-27.77	0.10	0.08	-3.00
7,925.00	1.04	61.78	7,923.44	29.02	114.43	-27.98	0.07	0.00	3.64
7,950.00	0.97	59.20	7,948.44	29.24	114.81	-28.19	0.33	-0.28	-10.32
7,975.00	1.07	67.76	7,973.43	29.43	115.20	-28.39	0.73	0.40	34.24
8,000.00	1.10	64.89	7,998.43	29.62	115.64	-28.57	0.25	0.12	-11.48
8,025.00	1.01	62.07	8,023.42	29.83	116.05	-28.77	0.42	-0.36	-11.28
8,050.00	1.04	62.90	8,048.42	30.03	116.45	-28.98	0.13	0.12	3.32
8,075.00	1.05	62.93	8,073.42	30.24	116.85	-29.18	0.04	0.04	0.12
8,100.00	1.08	62.42	8,098.41	30.46	117.27	-29.39	0.13	0.12	-2.04
8,125.00	1.03	64.66	8,123.41	30.66	117.68	-29.59	0.26	-0.20	8.96
8,150.00	1.09	65.36	8,148.40	30.86	118.10	-29.78	0.25	0.24	2.80
8,175.00	1.04	64.07	8,173.40	31.05	118.52	-29.98	0.22	-0.20	-5.16
8,200.00	1.02	61.44	8,198.40	31.26	118.92	-30.18	0.21	-0.08	-10.52
8,225.00	1.07	64.32	8,223.39	31.47	119.32	-30.38	0.29	0.20	11.52
8,250.00	1.10	65.26	8,248.39	31.67	119.75	-30.58	0.14	0.12	3.76
8,275.00	1.01	62.85	8,273.38	31.87	120.16	-30.78	0.40	-0.36	-9.64
8,300.00	1.01	67.22	8,298.38	32.06	120.56	-30.96	0.31	0.00	17.48
8,325.00	0.97	63.57	8,323.37	32.24	120.96	-31.14	0.30	-0.16	-14.60
8,350.00	0.94	66.08	8,348.37	32.41	121.33	-31.31	0.21	-0.12	10.04
8,375.00	0.90	68.82	8,373.37	32.57	121.70	-31.46	0.24	-0.16	10.96
8,400.00	0.93	68.12	8,398.36	32.71	122.07	-31.60	0.13	0.12	-2.80
8,425.00	0.93	68.28	8,423.36	32.86	122.45	-31.75	0.01	0.00	0.64
8,450.00	0.91	67.05	8,448.36	33.02	122.82	-31.90	0.11	-0.08	-4.92
8,475.00	0.99	71.13	8,473.35	33.16	123.21	-32.04	0.42	0.32	16.32
8,500.00	0.93	66.61	8,498.35	33.31	123.60	-32.19	0.39	-0.24	-18.08
8,525.00	0.93	68.57	8,523.35	33.47	123.98	-32.34	0.13	0.00	7.84
8,550.00	0.92	70.77	8,548.34	33.61	124.35	-32.48	0.15	-0.04	8.80
8,575.00	0.79	69.40	8,573.34	33.74	124.70	-32.60	0.53	-0.52	-5.48
8,600.00	0.82	67.99	8,598.34	33.86	125.03	-32.73	0.14	0.12	-5.64
8,625.00	0.72	72.88	8,623.34	33.98	125.35	-32.84	0.48	-0.40	19.56
8,650.00	0.81	70.59	8,648.34	34.08	125.66	-32.94	0.38	0.36	-9.16
8,675.00	0.77	65.23	8,673.33	34.21	125.98	-33.07	0.34	-0.16	-21.44
8,700.00	0.78	67.60	8,698.33	34.35	126.29	-33.20	0.13	0.04	9.48
8,725.00	0.77	69.47	8,723.33	34.47	126.61	-33.32	0.11	-0.04	7.48
8,750.00	0.78	69.18	8,748.33	34.59	126.92	-33.44	0.04	0.04	-1.16
8,775.00	0.76	70.54	8,773.32	34.71	127.24	-33.55	0.11	-0.08	5.44
8,800.00	0.73	71.28	8,798.32	34.81	127.55	-33.65	0.13	-0.12	2.96
8,825.00	0.78	70.99	8,823.32	34.92	127.86	-33.76	0.20	0.20	-1.16
8,850.00	0.71	67.61	8,848.32	35.03	128.16	-33.87	0.33	-0.28	-13.52
8,875.00	0.65	70.32	8,873.32	35.14	128.44	-33.97	0.27	-0.24	10.84
8,900.00	0.54	65.50	8,898.31	35.24	128.68	-34.07	0.48	-0.44	-19.28
8,925.00	0.53	66.62	8,923.31	35.33	128.89	-34.16	0.06	-0.04	4.48



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,950.00	0.61	71.59	8,948.31	35.42	129.13	-34.25	0.38	0.32	19.88
8,975.00	0.54	72.62	8,973.31	35.50	129.37	-34.32	0.28	-0.28	4.12
9,000.00	0.46	73.04	8,998.31	35.56	129.57	-34.38	0.32	-0.32	1.68
9,025.00	0.41	68.43	9,023.31	35.62	129.75	-34.44	0.24	-0.20	-18.44
9,050.00	0.35	72.19	9,048.31	35.68	129.91	-34.50	0.26	-0.24	15.04
9,075.00	0.34	69.58	9,073.31	35.73	130.05	-34.55	0.07	-0.04	-10.44
9,100.00	0.39	75.15	9,098.31	35.78	130.20	-34.59	0.25	0.20	22.28
9,125.00	0.42	69.09	9,123.31	35.83	130.37	-34.65	0.21	0.12	-24.24
9,150.00	0.54	76.90	9,148.31	35.89	130.57	-34.70	0.55	0.48	31.24
9,175.00	0.93	88.75	9,173.30	35.92	130.89	-34.73	1.67	1.56	47.40
9,200.00	1.32	93.96	9,198.30	35.91	131.38	-34.71	1.61	1.56	20.84
9,225.00	1.52	96.76	9,223.29	35.85	131.99	-34.65	0.85	0.80	11.20
9,250.00	1.53	95.90	9,248.28	35.77	132.66	-34.57	0.10	0.04	-3.44
9,275.00	1.37	98.50	9,273.27	35.69	133.28	-34.48	0.69	-0.64	10.40
9,300.00	1.45	97.59	9,298.27	35.61	133.89	-34.39	0.33	0.32	-3.64
9,325.00	1.47	99.18	9,323.26	35.52	134.52	-34.29	0.18	0.08	6.36
9,350.00	1.52	98.00	9,348.25	35.42	135.17	-34.19	0.23	0.20	-4.72
9,375.00	1.56	100.92	9,373.24	35.31	135.83	-34.07	0.35	0.16	11.68
9,400.00	1.61	100.13	9,398.23	35.18	136.51	-33.94	0.22	0.20	-3.16
9,425.00	1.61	105.03	9,423.22	35.03	137.20	-33.78	0.55	0.00	19.60
9,450.00	1.58	105.07	9,448.21	34.85	137.87	-33.60	0.12	-0.12	0.16
9,475.00	1.65	106.35	9,473.20	34.66	138.55	-33.40	0.31	0.28	5.12
9,500.00	1.69	107.73	9,498.19	34.44	139.24	-33.18	0.23	0.16	5.52
9,525.00	1.72	112.33	9,523.18	34.19	139.94	-32.92	0.56	0.12	18.40
9,550.00	1.75	112.71	9,548.17	33.90	140.64	-32.62	0.13	0.12	1.52
9,575.00	1.77	112.30	9,573.16	33.60	141.35	-32.32	0.09	0.08	-1.64
9,600.00	1.79	114.83	9,598.15	33.29	142.06	-32.00	0.32	0.08	10.12
9,625.00	1.84	115.85	9,623.13	32.96	142.78	-31.66	0.24	0.20	4.08
9,650.00	1.78	120.05	9,648.12	32.59	143.47	-31.28	0.58	-0.24	16.80
9,675.00	1.80	118.05	9,673.11	32.21	144.16	-30.90	0.26	0.08	-8.00
9,700.00	1.77	120.96	9,698.10	31.82	144.83	-30.51	0.38	-0.12	11.64
9,725.00	1.88	122.67	9,723.08	31.40	145.51	-30.08	0.49	0.44	6.84
9,750.00	1.82	124.62	9,748.07	30.96	146.18	-29.63	0.35	-0.24	7.80
9,775.00	1.80	127.74	9,773.06	30.49	146.82	-29.16	0.40	-0.08	12.48
9,800.00	1.80	129.34	9,798.05	30.00	147.43	-28.66	0.20	0.00	6.40
9,825.00	1.77	131.91	9,823.03	29.49	148.02	-28.15	0.34	-0.12	10.28
9,850.00	1.72	132.63	9,848.02	28.98	148.59	-27.63	0.22	-0.20	2.88
9,875.00	1.71	132.40	9,873.01	28.48	149.14	-27.12	0.05	-0.04	-0.92
9,900.00	1.79	131.89	9,898.00	27.96	149.70	-26.61	0.33	0.32	-2.04
9,925.00	1.77	132.28	9,922.99	27.44	150.28	-26.08	0.09	-0.08	1.56
9,950.00	1.75	131.69	9,947.97	26.93	150.85	-25.56	0.11	-0.08	-2.36
9,975.00	1.80	132.44	9,972.96	26.41	151.43	-25.04	0.22	0.20	3.00
10,000.00	1.83	133.33	9,997.95	25.87	152.01	-24.49	0.16	0.12	3.56
10,025.00	1.88	134.17	10,022.94	25.31	152.59	-23.93	0.23	0.20	3.36



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,050.00	1.93	135.02	10,047.92	24.73	153.18	-23.34	0.23	0.20	3.40
10,075.00	1.95	134.58	10,072.91	24.13	153.78	-22.74	0.10	0.08	-1.76
10,100.00	2.03	136.82	10,097.89	23.51	154.39	-22.11	0.45	0.32	8.96
10,125.00	2.15	137.29	10,122.88	22.84	155.01	-21.44	0.48	0.48	1.88
10,150.00	2.16	139.88	10,147.86	22.14	155.63	-20.73	0.39	0.04	10.36
10,175.00	2.12	140.43	10,172.84	21.42	156.23	-20.00	0.18	-0.16	2.20
10,200.00	2.43	141.62	10,197.82	20.65	156.85	-19.23	1.25	1.24	4.76
10,225.00	2.47	143.59	10,222.80	19.80	157.50	-18.37	0.37	0.16	7.88
10,250.00	2.50	142.40	10,247.78	18.94	158.16	-17.50	0.24	0.12	-4.76
10,275.00	2.58	142.93	10,272.75	18.06	158.83	-16.61	0.33	0.32	2.12
10,300.00	2.58	144.73	10,297.73	17.15	159.49	-15.70	0.32	0.00	7.20
10,325.00	2.72	144.40	10,322.70	16.21	160.16	-14.75	0.56	0.56	-1.32
10,350.00	2.75	145.66	10,347.67	15.23	160.84	-13.77	0.27	0.12	5.04
10,375.00	2.74	146.97	10,372.64	14.23	161.51	-12.77	0.25	-0.04	5.24
10,400.00	2.71	149.60	10,397.61	13.22	162.13	-11.75	0.51	-0.12	10.52
10,425.00	2.80	149.21	10,422.59	12.19	162.75	-10.71	0.37	0.36	-1.56
10,450.00	2.78	149.20	10,447.56	11.14	163.37	-9.66	0.08	-0.08	-0.04
10,475.00	2.83	149.00	10,472.53	10.09	164.00	-8.60	0.20	0.20	-0.80
10,500.00	2.92	148.79	10,497.49	9.02	164.64	-7.52	0.36	0.36	-0.84
10,525.00	2.89	150.02	10,522.46	7.93	165.29	-6.43	0.28	-0.12	4.92
10,550.00	2.94	149.93	10,547.43	6.83	165.93	-5.32	0.20	0.20	-0.36
10,575.00	2.79	150.51	10,572.40	5.74	166.55	-4.23	0.61	-0.60	2.32
10,600.00	2.89	148.84	10,597.37	4.67	167.17	-3.16	0.52	0.40	-6.68
10,625.00	2.81	152.17	10,622.34	3.59	167.78	-2.07	0.74	-0.32	13.32
10,650.00	2.67	151.80	10,647.31	2.54	168.35	-1.01	0.56	-0.56	-1.48
10,675.00	2.63	151.56	10,672.28	1.52	168.89	0.01	0.17	-0.16	-0.96
10,700.00	2.70	149.67	10,697.25	0.51	169.46	1.03	0.45	0.28	-7.56
10,725.00	2.64	151.54	10,722.23	-0.51	170.04	2.05	0.42	-0.24	7.48
10,750.00	2.56	151.44	10,747.20	-1.50	170.58	3.05	0.32	-0.32	-0.40
10,775.00	2.62	150.56	10,772.18	-2.49	171.12	4.04	0.29	0.24	-3.52
10,800.00	2.67	150.44	10,797.15	-3.50	171.69	5.05	0.20	0.20	-0.48
10,825.00	2.69	148.54	10,822.12	-4.50	172.29	6.07	0.36	0.08	-7.60
10,850.00	2.64	148.96	10,847.09	-5.50	172.89	7.07	0.21	-0.20	1.68
10,875.00	2.65	147.09	10,872.07	-6.48	173.50	8.05	0.35	0.04	-7.48
10,900.00	2.65	144.86	10,897.04	-7.43	174.15	9.01	0.41	0.00	-8.92
10,925.00	2.67	141.95	10,922.01	-8.36	174.84	9.95	0.55	0.08	-11.64
10,950.00	2.74	140.17	10,946.99	-9.28	175.58	10.87	0.44	0.28	-7.12
10,975.00	2.65	138.07	10,971.96	-10.17	176.35	11.77	0.53	-0.36	-8.40
11,000.00	2.66	136.22	10,996.93	-11.02	177.14	12.63	0.35	0.04	-7.40
11,025.00	2.75	133.57	11,021.90	-11.85	177.97	13.47	0.62	0.36	-10.60
11,050.00	2.69	130.62	11,046.88	-12.65	178.85	14.27	0.61	-0.24	-11.80
11,075.00	2.58	125.70	11,071.85	-13.36	179.75	14.99	1.01	-0.44	-19.68
11,100.00	2.59	124.20	11,096.82	-14.00	180.68	15.64	0.27	0.04	-6.00



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,125.00	2.42	121.97	11,121.80	-14.60	181.59	16.25	0.78	-0.68	-8.92
11,150.00	2.31	118.48	11,146.78	-15.12	182.48	16.77	0.72	-0.44	-13.96
11,175.00	2.31	115.90	11,171.76	-15.58	183.38	17.24	0.42	0.00	-10.32
11,200.00	2.11	114.15	11,196.74	-15.99	184.25	17.66	0.84	-0.80	-7.00
11,225.00	2.06	110.37	11,221.72	-16.33	185.09	18.01	0.59	-0.20	-15.12
11,250.00	2.00	107.00	11,246.71	-16.62	185.93	18.30	0.53	-0.24	-13.48
11,275.00	1.92	106.30	11,271.69	-16.86	186.75	18.56	0.33	-0.32	-2.80
11,300.00	1.89	103.39	11,296.68	-17.07	187.56	18.78	0.41	-0.12	-11.64
11,325.00	1.77	96.76	11,321.67	-17.22	188.34	18.92	0.97	-0.48	-26.52
11,350.00	1.67	93.74	11,346.66	-17.28	189.09	19.00	0.54	-0.40	-12.08
11,375.00	1.61	89.31	11,371.65	-17.30	189.80	19.03	0.56	-0.24	-17.72
11,400.00	1.55	84.81	11,396.64	-17.27	190.49	19.00	0.55	-0.24	-18.00
11,425.00	1.36	85.90	11,421.63	-17.22	191.12	18.95	0.77	-0.76	4.36
11,450.00	1.50	83.95	11,446.62	-17.16	191.74	18.90	0.59	0.56	-7.80
11,475.00	1.40	83.75	11,471.61	-17.09	192.37	18.84	0.40	-0.40	-0.80
11,500.00	1.27	85.90	11,496.61	-17.04	192.95	18.79	0.56	-0.52	8.60
11,512.00	1.36	89.20	11,508.60	-17.03	193.23	18.78	0.98	0.75	27.50
11512' MD: Final Gyro Survey									
11,602.00	1.49	103.49	11,598.57	-17.29	195.43	19.06	0.42	0.14	15.88
11602' MD: Begin Driltech MWD									
11,640.00	1.58	115.70	11,636.56	-17.63	196.39	19.41	0.89	0.24	32.13
11,729.00	1.45	125.15	11,725.53	-18.81	198.41	20.61	0.32	-0.15	10.62
11,813.00	4.28	158.95	11,809.42	-22.35	200.41	24.17	3.78	3.37	40.24
11,860.00	8.12	168.28	11,856.14	-27.24	201.71	29.07	8.42	8.17	19.85
11,908.00	12.79	163.57	11,903.33	-35.66	203.90	37.51	9.88	9.73	-9.81
11,955.00	18.49	160.00	11,948.57	-47.66	207.93	49.55	12.29	12.13	-7.60
12,002.00	23.64	158.14	11,992.42	-63.42	213.99	65.36	11.05	10.96	-3.96
12,049.00	29.27	156.63	12,034.48	-82.73	222.06	84.74	12.06	11.98	-3.21
12,096.00	34.50	157.46	12,074.37	-105.59	231.73	107.69	11.17	11.13	1.77
12,143.00	39.45	159.99	12,111.91	-131.93	241.95	134.12	11.02	10.53	5.38
12,191.00	44.98	161.46	12,147.45	-162.37	252.57	164.65	11.70	11.52	3.06
12,237.00	50.72	161.28	12,178.31	-194.67	263.46	197.05	12.48	12.48	-0.39
12,284.00	55.83	160.89	12,206.40	-230.29	275.67	232.79	10.89	10.87	-0.83
12,331.00	60.22	160.79	12,231.28	-267.94	288.76	270.55	9.34	9.34	-0.21
12,379.00	64.49	160.19	12,253.55	-308.01	302.96	310.75	8.96	8.90	-1.25
12,426.00	68.73	159.05	12,272.21	-348.44	317.98	351.31	9.29	9.02	-2.43
12,474.00	73.05	157.97	12,287.92	-390.63	334.60	393.65	9.25	9.00	-2.25
12,521.00	77.76	158.46	12,299.76	-432.85	351.47	436.02	10.07	10.02	1.04
12,568.00	82.12	159.86	12,307.96	-476.09	367.93	479.41	9.73	9.28	2.98
12,616.00	84.84	160.99	12,313.41	-521.02	383.90	524.48	6.13	5.67	2.35
12,664.00	88.92	164.52	12,316.03	-566.78	398.10	570.37	11.23	8.50	7.35
12,711.00	89.86	166.84	12,316.53	-612.31	409.73	616.00	5.33	2.00	4.94
12,759.00	91.48	170.99	12,315.97	-659.40	418.95	663.17	9.28	3.38	8.65
12,779.00	91.27	173.53	12,315.49	-679.21	421.65	683.01	12.74	-1.05	12.70



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,829.00	91.20	178.87	12,314.41	-729.07	424.96	732.90	10.68	-0.14	10.68
12,924.00	91.12	179.94	12,312.48	-824.04	425.94	827.88	1.13	-0.08	1.13
13,018.00	91.63	180.40	12,310.23	-918.02	425.66	921.84	0.73	0.54	0.49
13,113.00	90.78	179.99	12,308.23	-1,012.99	425.34	1,016.81	0.99	-0.89	-0.43
13,208.00	90.88	179.91	12,306.85	-1,107.98	425.42	1,111.80	0.13	0.11	-0.08
13,303.00	88.76	179.94	12,307.15	-1,202.98	425.55	1,206.79	2.23	-2.23	0.03
13,398.00	88.57	179.94	12,309.37	-1,297.95	425.65	1,301.76	0.20	-0.20	0.00
13,493.00	88.70	180.17	12,311.63	-1,392.92	425.56	1,396.73	0.28	0.14	0.24
13,587.00	88.32	180.76	12,314.07	-1,486.89	424.79	1,490.68	0.75	-0.40	0.63
13,681.00	88.21	180.13	12,316.92	-1,580.84	424.06	1,584.63	0.68	-0.12	-0.67
13,775.00	87.80	180.29	12,320.19	-1,674.78	423.72	1,678.56	0.47	-0.44	0.17
13,870.00	89.18	179.48	12,322.70	-1,769.75	423.91	1,773.52	1.68	1.45	-0.85
13,963.00	88.81	179.08	12,324.33	-1,862.73	425.08	1,866.51	0.59	-0.40	-0.43
14,058.00	89.83	178.96	12,325.45	-1,957.70	426.70	1,961.50	1.08	1.07	-0.13
14,152.00	89.61	178.98	12,325.91	-2,051.69	428.39	2,055.49	0.24	-0.23	0.02
14,247.00	91.16	178.26	12,325.28	-2,146.65	430.68	2,150.48	1.80	1.63	-0.76
14,342.00	90.27	177.32	12,324.09	-2,241.57	434.34	2,245.42	1.36	-0.94	-0.99
14,436.00	90.06	177.05	12,323.82	-2,335.46	438.96	2,339.35	0.36	-0.22	-0.29
14,531.00	92.16	177.50	12,321.98	-2,430.33	443.48	2,434.25	2.26	2.21	0.47
14,625.00	91.78	178.80	12,318.75	-2,524.22	446.51	2,528.17	1.44	-0.40	1.38
14,720.00	91.71	178.70	12,315.85	-2,619.16	448.58	2,623.12	0.13	-0.07	-0.11
14,814.00	91.13	177.58	12,313.53	-2,713.08	451.63	2,717.06	1.34	-0.62	-1.19
14,909.00	90.71	179.39	12,312.00	-2,808.03	454.14	2,812.03	1.96	-0.44	1.91
15,003.00	90.23	178.77	12,311.23	-2,902.01	455.65	2,906.03	0.83	-0.51	-0.66
15,098.00	90.39	179.40	12,310.71	-2,997.00	457.17	3,001.02	0.68	0.17	0.66
15,192.00	90.29	180.03	12,310.16	-3,090.99	457.64	3,095.02	0.68	-0.11	0.67
15,286.00	90.69	182.04	12,309.35	-3,184.97	455.94	3,188.98	2.18	0.43	2.14
15,381.00	89.24	181.79	12,309.41	-3,279.91	452.76	3,283.89	1.55	-1.53	-0.26
15,475.00	89.34	182.04	12,310.58	-3,373.85	449.62	3,377.80	0.29	0.11	0.27
15,569.00	89.69	181.78	12,311.37	-3,467.80	446.49	3,471.71	0.46	0.37	-0.28
15,664.00	88.80	182.41	12,312.62	-3,562.73	443.02	3,566.60	1.15	-0.94	0.66
15,759.00	88.46	181.89	12,314.89	-3,657.63	439.45	3,661.47	0.65	-0.36	-0.55
15,853.00	89.24	181.78	12,316.78	-3,751.56	436.45	3,755.37	0.84	0.83	-0.12
15,946.00	88.87	180.70	12,318.31	-3,844.53	434.43	3,848.31	1.23	-0.40	-1.16
16,041.00	89.05	180.50	12,320.04	-3,939.51	433.44	3,943.28	0.28	0.19	-0.21
16,136.00	89.86	179.14	12,320.94	-4,034.50	433.74	4,038.27	1.67	0.85	-1.43
16,229.00	89.82	179.14	12,321.20	-4,127.49	435.13	4,131.27	0.04	-0.04	0.00
16,323.00	89.50	178.45	12,321.76	-4,221.46	437.11	4,225.26	0.81	-0.34	-0.73
16,417.00	89.33	177.83	12,322.72	-4,315.41	440.16	4,319.23	0.68	-0.18	-0.66
16,512.00	89.80	177.78	12,323.44	-4,410.34	443.80	4,414.18	0.50	0.49	-0.05
16,606.00	90.06	179.01	12,323.56	-4,504.30	446.43	4,508.16	1.34	0.28	1.31
16,701.00	90.65	178.94	12,322.97	-4,599.28	448.13	4,603.16	0.63	0.62	-0.07
16,795.00	90.40	178.62	12,322.11	-4,693.25	450.13	4,697.15	0.43	-0.27	-0.34



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,889.00	89.97	178.40	12,321.80	-4,787.22	452.58	4,791.13	0.51	-0.46	-0.23
16,984.00	90.03	177.84	12,321.80	-4,882.17	455.69	4,886.11	0.59	0.06	-0.59
17,078.00	89.89	177.25	12,321.87	-4,976.08	459.72	4,980.05	0.65	-0.15	-0.63
17,173.00	89.79	177.13	12,322.13	-5,070.97	464.38	5,074.98	0.16	-0.11	-0.13
17,266.00	90.56	177.50	12,321.85	-5,163.87	468.73	5,167.91	0.92	0.83	0.40
17,361.00	90.80	177.78	12,320.72	-5,258.78	472.64	5,262.85	0.39	0.25	0.29
17,456.00	90.53	177.59	12,319.62	-5,353.69	476.48	5,357.80	0.35	-0.28	-0.20
17,550.00	90.50	178.64	12,318.77	-5,447.64	479.57	5,451.77	1.12	-0.03	1.12
17,644.00	90.71	179.72	12,317.78	-5,541.62	480.92	5,545.76	1.17	0.22	1.15
17,739.00	91.20	179.28	12,316.20	-5,636.61	481.75	5,640.75	0.69	0.52	-0.46
17,833.00	90.55	178.38	12,314.76	-5,730.57	483.67	5,734.73	1.18	-0.69	-0.96
17,928.00	90.66	178.34	12,313.76	-5,825.53	486.39	5,829.70	0.12	0.12	-0.04
18,026.00	88.25	181.16	12,314.69	-5,923.51	486.81	5,927.68	3.78	-2.46	2.88
18,120.00	87.53	180.38	12,318.15	-6,017.43	485.55	6,021.59	1.13	-0.77	-0.83
18,214.00	88.29	178.84	12,321.58	-6,111.36	486.19	6,115.53	1.83	0.81	-1.64
18,309.00	90.36	178.49	12,322.70	-6,206.33	488.40	6,210.50	2.21	2.18	-0.37
18,404.00	90.62	178.65	12,321.89	-6,301.29	490.77	6,305.49	0.32	0.27	0.17
18,498.00	90.54	177.86	12,320.94	-6,395.24	493.64	6,399.46	0.84	-0.09	-0.84
18,592.00	91.08	179.42	12,319.61	-6,489.21	495.87	6,493.44	1.76	0.57	1.66
18,687.00	90.96	180.30	12,317.92	-6,584.19	496.10	6,588.42	0.93	-0.13	0.93
18,782.00	90.93	179.38	12,316.35	-6,679.17	496.37	6,683.40	0.97	-0.03	-0.97
18,876.00	90.38	180.14	12,315.28	-6,773.17	496.76	6,777.40	1.00	-0.59	0.81
18,970.00	90.23	179.56	12,314.77	-6,867.16	497.00	6,871.39	0.64	-0.16	-0.62
19,065.00	90.08	178.19	12,314.52	-6,962.14	498.87	6,966.38	1.45	-0.16	-1.44
19,159.00	89.85	178.77	12,314.58	-7,056.11	501.36	7,060.37	0.66	-0.24	0.62
19,253.00	90.59	181.26	12,314.21	-7,150.10	501.34	7,154.36	2.76	0.79	2.65
19,347.00	89.37	181.86	12,314.25	-7,244.06	498.78	7,248.29	1.45	-1.30	0.64
19,442.00	89.80	182.42	12,314.94	-7,339.00	495.23	7,343.19	0.74	0.45	0.59
19,536.00	88.92	181.56	12,315.99	-7,432.93	491.97	7,437.09	1.31	-0.94	-0.91
19,631.00	87.13	181.38	12,319.26	-7,527.84	489.53	7,531.97	1.89	-1.88	-0.19
19,726.00	87.18	181.87	12,323.97	-7,622.68	486.84	7,626.79	0.52	0.05	0.52
19,821.00	87.21	182.07	12,328.62	-7,717.51	483.58	7,721.58	0.21	0.03	0.21
19,916.00	87.47	181.49	12,333.03	-7,812.36	480.63	7,816.41	0.67	0.27	-0.61
20,011.00	88.36	179.85	12,336.49	-7,907.29	479.52	7,911.32	1.96	0.94	-1.73
20,107.00	88.73	179.07	12,338.93	-8,003.26	480.43	8,007.29	0.90	0.39	-0.81
20,202.00	88.40	181.25	12,341.31	-8,098.22	480.16	8,102.24	2.32	-0.35	2.29
20,297.00	89.18	177.98	12,343.31	-8,193.18	480.80	8,197.21	3.54	0.82	-3.44
20,392.00	89.64	179.74	12,344.29	-8,288.15	482.69	8,292.19	1.91	0.48	1.85
20,488.00	91.55	177.22	12,343.29	-8,384.10	485.24	8,388.16	3.29	1.99	-2.63
20,583.00	91.54	176.78	12,340.73	-8,478.94	490.21	8,483.04	0.46	-0.01	-0.46
20,678.00	91.27	178.42	12,338.40	-8,573.82	494.18	8,577.96	1.75	-0.28	1.73
20,773.00	90.95	179.26	12,336.56	-8,668.78	496.11	8,672.93	0.95	-0.34	0.88
20,868.00	90.88	179.18	12,335.05	-8,763.76	497.40	8,767.92	0.11	-0.07	-0.08



Survey Report

Company:	Concho Operating	Local Co-ordinate Reference:	Well White Falcon 16 State #12H
Project:	Lea County, NM (Nad 27)	TVD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Site:	White Falcon 16 State	MD Reference:	GL 3258 + 29' KBE @ 3287.00ft (Noram #23)
Well:	White Falcon 16 State #12H	North Reference:	Grid
Wellbore:	#12H	Survey Calculation Method:	Minimum Curvature
Design:	#12H	Database:	EDM 5000.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
20,963.00	90.80	179.25	12,333.65	-8,858.74	498.70	8,862.91	0.11	-0.08	0.07
21,058.00	90.95	178.74	12,332.20	-8,953.72	500.37	8,957.89	0.56	0.16	-0.54
21,154.00	91.02	178.58	12,330.55	-9,049.68	502.61	9,053.87	0.18	0.07	-0.17
21,249.00	90.93	178.71	12,328.93	-9,144.64	504.86	9,148.84	0.17	-0.09	0.14
21,344.00	90.67	178.54	12,327.61	-9,239.60	507.14	9,243.82	0.33	-0.27	-0.18
21,439.00	90.64	178.66	12,326.52	-9,334.57	509.46	9,338.81	0.13	-0.03	0.13
21,534.00	90.35	178.88	12,325.70	-9,429.54	511.50	9,433.79	0.38	-0.31	0.23
21,625.00	90.55	179.07	12,324.99	-9,520.52	513.12	9,524.79	0.30	0.22	0.21
21,720.00	90.57	178.60	12,324.06	-9,615.50	515.06	9,619.78	0.50	0.02	-0.49
21,815.00	88.47	178.10	12,324.85	-9,710.45	517.79	9,714.75	2.27	-2.21	-0.53
21,910.00	87.91	177.61	12,327.86	-9,805.34	521.35	9,809.66	0.78	-0.59	-0.52
22,005.00	87.23	177.70	12,331.88	-9,900.17	525.23	9,904.53	0.72	-0.72	0.09
22,100.00	86.90	178.74	12,336.75	-9,995.00	528.18	9,999.38	1.15	-0.35	1.09
22,171.00	86.34	177.99	12,340.93	-10,065.85	530.20	10,070.24	1.32	-0.79	-1.06
22171'MD: Final MWD Survey									
22,232.00	86.34	177.99	12,344.83	-10,126.68	532.33	10,131.10	0.00	0.00	0.00
22232'MD: Projected To Total Depth									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
100.00	100.00	0.12	0.14	100'MD: Begin Scientific Keeper Gyro	
11,512.00	11,508.60	-17.03	193.23	11512'MD: Final Gyro Survey	
11,602.00	11,598.57	-17.29	195.43	11602'MD: Begin Driltech MWD	
22,171.00	12,340.93	-10,065.85	530.20	22171'MD: Final MWD Survey	
22,232.00	12,344.83	-10,126.68	532.33	22232'MD: Projected To Total Depth	

Checked By: _____ Approved By: _____ Date: _____

COG

SURVEY REPORT

WHITE FALCON 16 STATE COM #12H

NORAM #23

12/17/2017

This survey is correct to the best of my knowledge and is supported by actual field data.

Kolton Cotton

Notarized this date 9 of February, 2018.

Sherry Stewart

Notary Signature

County of Midland

State of Texas



The Ultimate Partner In Wellbore Placement

CUSTOMER COG
PROJECT White Falcon 16 State Com #12H
FIELD Wolfcamp

SDI JOB NO. OP.006691
SDI DISTRICT Midland
SDI KIT/UNIT

SITE INFORMATION

Site Name White Falcon 16
Lat/Long 32.13689° N, 103.377804° W
Northing
Easting

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.51 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001



WELL INFORMATION

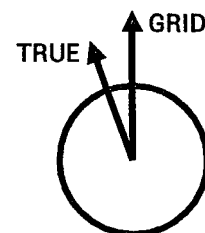
Lat/Long 32.13689° N, 103.377804° W
Northing
Easting
UWI

DEPTH AND ELEVATION REFERENCE

Ground Level 3258 ft above Mean Sea Level
Reference Datum KB
Reference Height 29 ft above G.L.
Reference Elevation 3287 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 179.48°
Calculation Method Minimum Curvature



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity 998.507 mG [computed]
True to Grid subtract 0.51°

WELL NOTES

OPERATORS

Grayson Wegner

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.21	50.13	100.00	-0.11	0.12	0.14	0.21	0.18	50.13
125.00	0.24	44.22	125.00	-0.18	0.18	0.21	0.16	0.28	49.02
150.00	0.11	27.06	150.00	-0.24	0.24	0.26	0.53	0.35	46.79
175.00	0.18	65.10	175.00	-0.28	0.28	0.30	0.44	0.41	47.30
200.00	0.39	64.22	200.00	-0.33	0.33	0.41	0.87	0.53	51.25
225.00	0.46	88.54	225.00	-0.37	0.37	0.59	0.77	0.70	57.86
250.00	0.54	82.43	250.00	-0.38	0.39	0.81	0.36	0.90	64.27
275.00	0.69	88.52	275.00	-0.40	0.41	1.08	0.67	1.15	69.18
300.00	0.83	91.62	299.99	-0.40	0.41	1.41	0.57	1.47	73.83
325.00	0.97	91.87	324.99	-0.38	0.40	1.80	0.55	1.84	77.58
350.00	1.04	92.15	349.99	-0.36	0.38	2.24	0.29	2.27	80.34
375.00	1.07	91.34	374.98	-0.34	0.37	2.70	0.15	2.72	82.25
400.00	1.13	93.54	399.98	-0.32	0.35	3.18	0.28	3.20	83.78
425.00	1.20	90.85	424.97	-0.29	0.33	3.68	0.36	3.70	84.93
450.00	1.23	92.50	449.97	-0.27	0.31	4.21	0.17	4.22	85.77
475.00	1.45	90.72	474.96	-0.25	0.30	4.80	0.92	4.81	86.47
500.00	1.46	93.35	499.95	-0.22	0.27	5.43	0.27	5.44	87.12
525.00	1.58	92.25	524.94	-0.19	0.24	6.09	0.51	6.10	87.73
550.00	1.72	92.42	549.93	-0.15	0.21	6.81	0.56	6.81	88.22
575.00	1.80	90.78	574.92	-0.12	0.19	7.58	0.38	7.58	88.56
600.00	1.83	89.93	599.91	-0.11	0.19	8.37	0.16	8.37	88.73
625.00	1.79	90.91	624.90	-0.10	0.18	9.16	0.20	9.16	88.87
650.00	1.77	89.97	649.88	-0.08	0.17	9.94	0.15	9.94	89.00
675.00	1.83	89.62	674.87	-0.08	0.18	10.72	0.26	10.72	89.05
700.00	1.81	87.28	699.86	-0.09	0.20	11.51	0.31	11.52	89.01
725.00	1.85	86.34	724.85	-0.13	0.24	12.31	0.21	12.31	88.87
750.00	1.81	85.90	749.83	-0.18	0.30	13.11	0.16	13.11	88.70
775.00	1.89	85.81	774.82	-0.23	0.36	13.91	0.29	13.92	88.54
800.00	1.86	83.86	799.81	-0.30	0.43	14.73	0.27	14.73	88.33
825.00	1.91	79.75	824.79	-0.41	0.55	15.54	0.58	15.55	87.99
850.00	2.02	79.38	849.78	-0.55	0.70	16.39	0.44	16.40	87.55

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
875.00	2.10	77.59	874.76	-0.72	0.88	17.27	0.40	17.29	87.08
900.00	2.17	75.12	899.75	-0.94	1.10	18.17	0.47	18.20	86.53
925.00	2.36	70.14	924.73	-1.22	1.40	19.11	1.08	19.16	85.82
950.00	2.43	70.81	949.70	-1.56	1.75	20.10	0.30	20.17	85.03
975.00	2.39	69.99	974.68	-1.91	2.10	21.08	0.21	21.19	84.32
1000.00	2.44	70.83	999.66	-2.25	2.45	22.08	0.26	22.21	83.66
1025.00	2.43	70.96	1024.64	-2.59	2.80	23.08	0.04	23.25	83.08
1050.00	2.41	70.27	1049.62	-2.93	3.15	24.08	0.16	24.28	82.55
1075.00	2.41	71.46	1074.59	-3.27	3.50	25.07	0.20	25.31	82.06
1100.00	2.46	69.58	1099.57	-3.61	3.85	26.07	0.36	26.36	81.60
1125.00	2.44	69.69	1124.55	-3.98	4.22	27.07	0.08	27.40	81.14
1150.00	2.49	71.03	1149.52	-4.33	4.58	28.09	0.30	28.46	80.73
1175.00	2.45	70.51	1174.50	-4.67	4.94	29.10	0.17	29.52	80.37
1200.00	2.44	70.41	1199.48	-5.02	5.29	30.11	0.05	30.57	80.03
1225.00	2.46	70.82	1224.46	-5.37	5.65	31.12	0.12	31.62	79.71
1250.00	2.40	71.38	1249.43	-5.70	5.99	32.12	0.25	32.67	79.43
1275.00	2.14	69.45	1274.41	-6.02	6.32	33.05	1.09	33.65	79.17
1300.00	1.66	63.15	1299.40	-6.34	6.65	33.82	2.09	34.46	78.87
1325.00	1.52	58.45	1324.39	-6.68	6.99	34.42	0.77	35.12	78.52
1350.00	1.28	53.36	1349.38	-7.01	7.33	34.93	1.07	35.69	78.15
1375.00	1.19	50.94	1374.38	-7.34	7.66	35.36	0.42	36.18	77.77
1400.00	1.23	50.78	1399.37	-7.67	7.99	35.77	0.13	36.65	77.40
1425.00	1.26	50.00	1424.37	-8.01	8.34	36.18	0.14	37.13	77.02
1450.00	1.22	51.53	1449.36	-8.35	8.68	36.60	0.19	37.62	76.66
1475.00	1.28	67.01	1474.35	-8.62	8.96	37.07	1.37	38.13	76.42
1500.00	1.34	78.36	1499.35	-8.78	9.12	37.61	1.06	38.70	76.36
1525.00	1.45	86.84	1524.34	-8.85	9.20	38.21	0.95	39.30	76.46
1550.00	1.57	91.48	1549.33	-8.86	9.21	38.87	0.68	39.95	76.67
1575.00	1.58	90.85	1574.32	-8.84	9.19	39.56	0.07	40.61	76.91
1600.00	1.51	92.71	1599.31	-8.81	9.17	40.23	0.34	41.26	77.15
1625.00	1.58	89.66	1624.30	-8.79	9.16	40.90	0.43	41.92	77.38
1650.00	1.45	92.33	1649.29	-8.77	9.15	41.56	0.58	42.56	77.58

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
1675.00	1.15	96.87	1674.29	-8.72	9.11	42.13	1.26	43.10	77.80
1700.00	1.02	101.84	1699.28	-8.64	9.03	42.60	0.64	43.54	78.03
1725.00	1.06	100.48	1724.28	-8.55	8.94	43.04	0.18	43.96	78.26
1750.00	1.04	102.44	1749.28	-8.46	8.85	43.49	0.17	44.38	78.49
1775.00	0.99	104.48	1774.27	-8.35	8.75	43.92	0.25	44.78	78.73
1800.00	1.01	99.62	1799.27	-8.26	8.66	44.34	0.35	45.18	78.95
1825.00	1.07	98.62	1824.26	-8.18	8.59	44.79	0.26	45.61	79.15
1850.00	0.96	104.47	1849.26	-8.09	8.50	45.23	0.62	46.02	79.35
1875.00	1.02	103.61	1874.26	-7.98	8.40	45.64	0.27	46.41	79.58
1900.00	0.97	103.78	1899.25	-7.87	8.29	46.07	0.22	46.81	79.79
1925.00	1.04	99.93	1924.25	-7.78	8.20	46.50	0.40	47.21	79.99
1950.00	1.05	101.03	1949.24	-7.69	8.12	46.94	0.08	47.64	80.19
1975.00	1.01	103.06	1974.24	-7.60	8.03	47.38	0.21	48.06	80.39
2000.00	1.07	99.62	1999.24	-7.50	7.94	47.83	0.33	48.48	80.58
2025.00	1.04	97.37	2024.23	-7.43	7.87	48.28	0.19	48.92	80.74
2050.00	1.04	100.93	2049.23	-7.36	7.80	48.73	0.26	49.35	80.91
2075.00	1.12	97.43	2074.22	-7.28	7.72	49.20	0.40	49.80	81.08
2100.00	1.15	95.00	2099.22	-7.22	7.67	49.69	0.24	50.28	81.22
2125.00	1.10	84.93	2124.21	-7.21	7.67	50.18	0.82	50.76	81.31
2150.00	1.12	67.66	2149.21	-7.32	7.78	50.64	1.34	51.24	81.26
2175.00	1.43	54.75	2174.20	-7.59	8.06	51.12	1.67	51.75	81.04
2200.00	1.39	54.16	2199.20	-7.94	8.41	51.62	0.16	52.30	80.74
2225.00	1.25	49.68	2224.19	-8.29	8.77	52.07	0.69	52.81	80.44
2250.00	1.31	51.69	2249.18	-8.64	9.12	52.51	0.29	53.29	80.15
2275.00	1.33	53.28	2274.18	-8.99	9.47	52.96	0.16	53.80	79.86
2300.00	1.36	53.08	2299.17	-9.34	9.82	53.43	0.16	54.33	79.58
2325.00	1.24	63.38	2324.16	-9.63	10.12	53.91	1.07	54.85	79.37
2350.00	1.18	77.85	2349.16	-9.80	10.30	54.40	1.24	55.37	79.28
2375.00	1.19	87.53	2374.15	-9.86	10.36	54.91	0.80	55.88	79.32
2400.00	1.10	94.77	2399.15	-9.85	10.35	55.41	0.69	56.37	79.42
2425.00	1.12	93.21	2424.14	-9.81	10.32	55.89	0.15	56.84	79.54
2450.00	1.09	92.12	2449.14	-9.78	10.30	56.37	0.16	57.30	79.65

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	/100ft	ft	deg
2475.00	1.09	93.48	2474.13	-9.76	10.27	56.85	0.11	57.77	79.76
2500.00	1.11	95.62	2499.13	-9.71	10.23	57.33	0.18	58.23	79.88
2525.00	1.16	94.88	2524.12	-9.66	10.19	57.82	0.21	58.71	80.01
2550.00	1.20	94.14	2549.12	-9.62	10.15	58.33	0.17	59.21	80.13
2575.00	1.24	95.20	2574.11	-9.57	10.11	58.86	0.17	59.72	80.26
2600.00	1.27	96.76	2599.11	-9.51	10.05	59.40	0.18	60.25	80.40
2625.00	1.28	94.28	2624.10	-9.45	10.00	59.96	0.23	60.78	80.54
2650.00	1.21	98.59	2649.09	-9.39	9.93	60.50	0.46	61.31	80.67
2675.00	1.22	96.53	2674.09	-9.31	9.86	61.02	0.18	61.82	80.82
2700.00	1.23	97.92	2699.08	-9.24	9.80	61.55	0.12	62.33	80.96
2725.00	1.22	97.04	2724.08	-9.16	9.73	62.08	0.08	62.84	81.09
2750.00	1.21	95.74	2749.07	-9.10	9.67	62.61	0.12	63.35	81.22
2775.00	1.25	94.84	2774.07	-9.05	9.62	63.14	0.17	63.87	81.34
2800.00	1.08	99.51	2799.06	-8.98	9.56	63.65	0.78	64.36	81.46
2825.00	0.96	101.01	2824.06	-8.90	9.48	64.09	0.48	64.78	81.59
2850.00	0.89	100.20	2849.05	-8.82	9.40	64.48	0.29	65.17	81.70
2875.00	0.82	104.99	2874.05	-8.73	9.32	64.85	0.41	65.52	81.82
2900.00	0.79	97.88	2899.05	-8.66	9.25	65.19	0.42	65.85	81.92
2925.00	0.92	101.64	2924.05	-8.59	9.19	65.56	0.56	66.20	82.02
2950.00	0.85	103.27	2949.04	-8.51	9.11	65.94	0.28	66.56	82.14
2975.00	0.83	93.90	2974.04	-8.45	9.05	66.30	0.56	66.91	82.23
3000.00	0.61	84.28	2999.04	-8.45	9.05	66.61	1.01	67.22	82.26
3025.00	0.61	70.87	3024.04	-8.50	9.11	66.87	0.57	67.49	82.24
3050.00	0.62	65.32	3049.04	-8.60	9.21	67.12	0.25	67.75	82.19
3075.00	0.67	61.82	3074.03	-8.72	9.33	67.37	0.24	68.01	82.11
3100.00	0.62	61.76	3099.03	-8.85	9.47	67.62	0.20	68.28	82.03
3125.00	0.55	61.41	3124.03	-8.97	9.59	67.84	0.29	68.51	81.96
3150.00	0.73	63.37	3149.03	-9.10	9.72	68.09	0.74	68.78	81.88
3175.00	0.66	64.41	3174.03	-9.23	9.85	68.36	0.29	69.06	81.80
3200.00	0.84	62.90	3199.03	-9.37	10.00	68.65	0.74	69.37	81.72
3225.00	0.82	58.85	3224.02	-9.55	10.17	68.97	0.25	69.71	81.61
3250.00	0.75	67.87	3249.02	-9.70	10.33	69.27	0.56	70.04	81.52

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3275.00	0.76	61.61	3274.02	-9.83	10.47	69.57	0.33	70.35	81.44
3300.00	0.87	56.74	3299.02	-10.01	10.65	69.87	0.51	70.68	81.33
3325.00	0.77	58.03	3324.01	-10.20	10.84	70.17	0.38	71.01	81.22
3350.00	0.86	66.48	3349.01	-10.37	11.01	70.49	0.58	71.34	81.13
3375.00	0.83	65.04	3374.01	-10.51	11.16	70.83	0.12	71.70	81.05
3400.00	0.83	66.36	3399.01	-10.66	11.31	71.16	0.08	72.05	80.97
3425.00	0.98	60.92	3424.00	-10.83	11.48	71.51	0.69	72.42	80.88
3450.00	0.93	60.26	3449.00	-11.03	11.69	71.87	0.19	72.81	80.76
3475.00	0.98	61.78	3473.99	-11.23	11.89	72.23	0.24	73.21	80.65
3500.00	0.94	64.11	3498.99	-11.42	12.08	72.61	0.24	73.61	80.55
3525.00	1.09	64.07	3523.99	-11.61	12.27	73.01	0.62	74.03	80.46
3550.00	1.15	64.23	3548.98	-11.82	12.49	73.45	0.24	74.50	80.35
3575.00	1.23	61.91	3573.98	-12.05	12.72	73.91	0.37	75.00	80.23
3600.00	1.31	65.86	3598.97	-12.29	12.97	74.41	0.47	75.53	80.12
3625.00	1.26	64.32	3623.96	-12.52	13.20	74.92	0.23	76.07	80.01
3650.00	1.22	67.01	3648.96	-12.74	13.42	75.41	0.28	76.59	79.91
3675.00	1.20	66.38	3673.95	-12.94	13.63	75.89	0.10	77.11	79.82
3700.00	1.23	62.63	3698.95	-13.17	13.86	76.37	0.34	77.62	79.71
3725.00	1.32	64.64	3723.94	-13.41	14.11	76.87	0.40	78.16	79.60
3750.00	1.11	67.08	3748.94	-13.62	14.33	77.36	0.86	78.67	79.51
3775.00	1.06	65.97	3773.93	-13.81	14.52	77.79	0.23	79.13	79.43
3800.00	0.89	63.85	3798.93	-13.98	14.69	78.17	0.71	79.54	79.35
3825.00	0.78	55.51	3823.93	-14.16	14.88	78.49	0.64	79.89	79.27
3850.00	0.71	30.60	3848.92	-14.39	15.11	78.71	1.32	80.14	79.14
3875.00	0.73	15.70	3873.92	-14.68	15.39	78.83	0.75	80.32	78.95
3900.00	0.74	12.38	3898.92	-14.99	15.71	78.91	0.18	80.46	78.74
3925.00	0.79	9.95	3923.92	-15.32	16.03	78.97	0.22	80.58	78.52
3950.00	0.81	15.43	3948.91	-15.66	16.37	79.05	0.31	80.73	78.30
3975.00	0.79	17.66	3973.91	-15.99	16.71	79.15	0.15	80.89	78.08
4000.00	0.81	18.51	3998.91	-16.32	17.04	79.26	0.09	81.07	77.87
4025.00	0.79	38.35	4023.91	-16.62	17.34	79.42	1.10	81.29	77.68
4050.00	0.92	52.13	4048.90	-16.87	17.60	79.68	0.96	81.60	77.55

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
4075.00	1.09	63.29	4073.90	-17.10	17.83	80.05	1.03	82.01	77.45
4100.00	1.11	69.06	4098.90	-17.29	18.02	80.49	0.46	82.49	77.38
4125.00	1.16	69.06	4123.89	-17.46	18.20	80.96	0.19	82.98	77.33
4150.00	1.11	73.22	4148.89	-17.62	18.36	81.43	0.38	83.47	77.29
4175.00	1.22	72.51	4173.88	-17.77	18.51	81.91	0.45	83.98	77.27
4200.00	1.28	76.29	4198.88	-17.91	18.66	82.44	0.40	84.52	77.25
4225.00	1.25	76.63	4223.87	-18.03	18.79	82.98	0.11	85.08	77.24
4250.00	1.31	80.04	4248.86	-18.14	18.90	83.52	0.38	85.63	77.25
4275.00	1.27	83.80	4273.86	-18.21	18.98	84.08	0.37	86.19	77.28
4300.00	1.48	87.00	4298.85	-18.26	19.02	84.68	0.89	86.79	77.34
4325.00	1.45	91.81	4323.84	-18.26	19.03	85.32	0.50	87.41	77.42
4350.00	1.50	92.84	4348.83	-18.22	19.00	85.96	0.21	88.04	77.53
4375.00	1.52	94.53	4373.82	-18.18	18.96	86.62	0.19	88.67	77.65
4400.00	1.36	98.34	4398.82	-18.10	18.89	87.24	0.74	89.26	77.78
4425.00	1.06	106.14	4423.81	-17.99	18.79	87.75	1.36	89.74	77.92
4450.00	0.98	114.61	4448.81	-17.83	18.63	88.17	0.68	90.12	78.07
4475.00	0.87	114.63	4473.80	-17.66	18.46	88.54	0.45	90.44	78.22
4500.00	0.95	113.22	4498.80	-17.49	18.30	88.90	0.34	90.77	78.37
4525.00	0.98	109.69	4523.80	-17.34	18.15	89.30	0.25	91.12	78.51
4550.00	0.89	113.32	4548.79	-17.19	18.00	89.67	0.42	91.46	78.65
4575.00	0.92	113.86	4573.79	-17.02	17.84	90.04	0.14	91.79	78.79
4600.00	0.90	111.62	4598.79	-16.87	17.69	90.40	0.17	92.12	78.93
4625.00	1.11	109.20	4623.78	-16.71	17.54	90.81	0.84	92.49	79.07
4650.00	1.32	106.80	4648.78	-16.54	17.37	91.32	0.89	92.96	79.23
4675.00	1.53	104.68	4673.77	-16.37	17.21	91.92	0.86	93.51	79.40
4700.00	1.68	104.87	4698.76	-16.19	17.03	92.60	0.61	94.15	79.58
4725.00	1.61	104.26	4723.75	-16.00	16.85	93.29	0.30	94.80	79.76
4750.00	1.63	106.91	4748.74	-15.80	16.66	93.97	0.31	95.44	79.95
4775.00	1.69	105.11	4773.73	-15.60	16.46	94.67	0.31	96.09	80.14
4800.00	1.65	104.67	4798.72	-15.40	16.27	95.37	0.18	96.75	80.32
4825.00	1.66	106.53	4823.71	-15.20	16.08	96.07	0.22	97.40	80.50
4850.00	1.65	105.14	4848.70	-15.00	15.88	96.76	0.17	98.06	80.68

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4875.00	0.94	113.42	4873.69	-14.82	15.70	97.30	2.93	98.55	80.83
4900.00	0.46	123.38	4898.69	-14.68	15.57	97.57	1.97	98.80	80.93
4925.00	0.23	133.41	4923.69	-14.59	15.48	97.69	0.93	98.91	81.00
4950.00	0.19	128.16	4948.69	-14.53	15.42	97.76	0.19	98.96	81.04
4975.00	0.21	130.32	4973.69	-14.47	15.36	97.82	0.09	99.02	81.07
5000.00	0.19	132.06	4998.69	-14.42	15.31	97.89	0.08	99.08	81.11
5025.00	0.11	147.71	5023.69	-14.37	15.26	97.93	0.34	99.11	81.14
5050.00	0.13	114.46	5048.69	-14.34	15.23	97.97	0.28	99.15	81.17
5075.00	0.16	135.29	5073.69	-14.30	15.19	98.02	0.25	99.19	81.19
5100.00	0.13	115.23	5098.69	-14.26	15.15	98.07	0.23	99.23	81.22
5125.00	0.07	152.91	5123.69	-14.23	15.13	98.10	0.35	99.26	81.23
5150.00	0.04	123.03	5148.69	-14.22	15.11	98.12	0.17	99.27	81.25
5175.00	0.04	167.71	5173.69	-14.20	15.09	98.12	0.12	99.28	81.25
5200.00	0.03	160.81	5198.69	-14.19	15.08	98.13	0.04	99.28	81.26
5225.00	0.05	182.32	5223.69	-14.17	15.06	98.13	0.11	99.28	81.27
5250.00	0.11	228.61	5248.69	-14.14	15.03	98.11	0.32	99.26	81.29
5275.00	0.10	255.90	5273.69	-14.12	15.01	98.08	0.20	99.22	81.30
5300.00	0.13	253.97	5298.69	-14.11	15.00	98.03	0.14	99.17	81.30
5325.00	0.08	224.57	5323.69	-14.09	14.98	97.99	0.29	99.13	81.31
5350.00	0.13	231.12	5348.69	-14.06	14.95	97.95	0.20	99.09	81.32
5375.00	0.07	215.88	5373.69	-14.03	14.92	97.92	0.26	99.05	81.34
5400.00	0.04	201.88	5398.69	-14.01	14.90	97.91	0.14	99.04	81.35
5425.00	0.14	233.68	5423.69	-13.98	14.87	97.88	0.45	99.00	81.36
5450.00	0.08	213.31	5448.69	-13.95	14.84	97.85	0.30	98.97	81.38
5475.00	0.17	217.56	5473.69	-13.91	14.80	97.82	0.35	98.93	81.40
5500.00	0.18	229.18	5498.69	-13.85	14.74	97.76	0.15	98.87	81.43
5525.00	0.18	227.73	5523.69	-13.80	14.69	97.70	0.02	98.80	81.45
5550.00	0.20	250.56	5548.69	-13.76	14.65	97.63	0.32	98.73	81.47
5575.00	0.13	233.22	5573.69	-13.73	14.62	97.57	0.34	98.66	81.48
5600.00	0.18	237.79	5598.69	-13.69	14.58	97.51	0.19	98.59	81.50
5625.00	0.15	232.87	5623.69	-13.65	14.54	97.45	0.12	98.53	81.52
5650.00	0.18	252.83	5648.69	-13.62	14.50	97.38	0.26	98.46	81.53

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
5675.00	0.10	225.02	5673.69	-13.59	14.48	97.33	0.43	98.40	81.54
5700.00	0.31	237.35	5698.69	-13.54	14.42	97.26	0.86	98.32	81.56
5725.00	0.11	77.99	5723.69	-13.51	14.39	97.22	1.66	98.28	81.58
5750.00	0.16	146.73	5748.69	-13.48	14.37	97.27	0.64	98.32	81.60
5775.00	0.26	238.01	5773.69	-13.42	14.31	97.24	1.25	98.29	81.63
5800.00	0.32	242.33	5798.69	-13.36	14.24	97.13	0.25	98.17	81.66
5825.00	0.20	229.42	5823.69	-13.30	14.18	97.03	0.52	98.06	81.68
5850.00	0.28	232.30	5848.69	-13.24	14.12	96.95	0.30	97.97	81.72
5875.00	0.30	245.75	5873.69	-13.17	14.05	96.84	0.28	97.86	81.74
5900.00	0.25	247.46	5898.68	-13.13	14.01	96.73	0.18	97.74	81.76
5925.00	0.22	231.14	5923.68	-13.08	13.95	96.64	0.31	97.65	81.78
5950.00	0.34	237.76	5948.68	-13.01	13.89	96.55	0.50	97.54	81.82
5975.00	0.33	234.55	5973.68	-12.93	13.80	96.42	0.08	97.41	81.85
6000.00	0.21	221.78	5998.68	-12.85	13.73	96.33	0.56	97.31	81.89
6025.00	0.29	241.05	6023.68	-12.79	13.66	96.25	0.48	97.21	81.92
6050.00	0.31	243.30	6048.68	-12.73	13.60	96.13	0.08	97.09	81.95
6075.00	0.33	238.87	6073.68	-12.66	13.53	96.01	0.12	96.96	81.98
6100.00	0.36	254.30	6098.68	-12.61	13.48	95.87	0.38	96.82	82.00
6125.00	0.29	232.81	6123.68	-12.55	13.42	95.75	0.55	96.68	82.02
6150.00	0.33	242.10	6148.68	-12.48	13.34	95.63	0.26	96.56	82.06
6175.00	0.36	235.35	6173.68	-12.40	13.27	95.50	0.19	96.42	82.09
6200.00	0.30	236.45	6198.68	-12.32	13.19	95.39	0.24	96.29	82.13
6225.00	0.33	249.50	6223.68	-12.26	13.13	95.27	0.31	96.17	82.16
6250.00	0.26	222.01	6248.68	-12.19	13.06	95.16	0.62	96.05	82.19
6275.00	0.29	229.74	6273.68	-12.11	12.98	95.08	0.18	95.96	82.23
6300.00	0.21	222.58	6298.68	-12.04	12.90	95.00	0.33	95.87	82.27
6325.00	0.29	236.31	6323.68	-11.97	12.83	94.91	0.41	95.78	82.30
6350.00	0.22	236.78	6348.68	-11.91	12.77	94.82	0.30	95.68	82.33
6375.00	0.18	256.45	6373.68	-11.88	12.74	94.75	0.31	95.60	82.34
6400.00	0.10	351.50	6398.68	-11.89	12.75	94.70	0.83	95.56	82.33
6425.00	0.14	39.94	6423.68	-11.93	12.79	94.72	0.43	95.58	82.31
6450.00	0.12	333.52	6448.68	-11.98	12.84	94.73	0.59	95.60	82.28

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
6475.00	0.23	25.44	6473.68	-12.05	12.91	94.74	0.74	95.62	82.24
6500.00	0.35	29.36	6498.68	-12.16	13.02	94.80	0.49	95.69	82.18
6525.00	0.44	25.17	6523.68	-12.32	13.18	94.88	0.37	95.79	82.09
6550.00	0.44	22.39	6548.68	-12.49	13.35	94.96	0.09	95.89	81.99
6575.00	0.61	35.21	6573.68	-12.69	13.55	95.07	0.81	96.03	81.89
6600.00	0.72	41.30	6598.67	-12.91	13.78	95.25	0.53	96.24	81.77
6625.00	0.74	43.80	6623.67	-13.15	14.01	95.46	0.15	96.49	81.65
6650.00	0.73	38.94	6648.67	-13.39	14.26	95.68	0.26	96.73	81.53
6675.00	0.78	39.91	6673.67	-13.64	14.51	95.89	0.20	96.98	81.40
6700.00	0.76	38.04	6698.67	-13.90	14.77	96.10	0.13	97.22	81.26
6725.00	0.76	45.13	6723.66	-14.14	15.02	96.32	0.37	97.48	81.14
6750.00	0.82	45.90	6748.66	-14.38	15.26	96.56	0.26	97.76	81.02
6775.00	0.78	44.83	6773.66	-14.62	15.50	96.81	0.17	98.04	80.90
6800.00	0.79	43.76	6798.66	-14.87	15.75	97.05	0.07	98.32	80.78
6825.00	0.80	40.29	6823.65	-15.12	16.01	97.28	0.19	98.59	80.66
6850.00	0.96	44.26	6848.65	-15.40	16.29	97.54	0.69	98.89	80.52
6875.00	1.15	53.83	6873.65	-15.70	16.59	97.89	1.04	99.28	80.38
6900.00	1.13	52.60	6898.64	-15.99	16.88	98.29	0.12	99.73	80.25
6925.00	1.18	51.18	6923.64	-16.30	17.19	98.68	0.22	100.17	80.12
6950.00	1.11	53.17	6948.63	-16.60	17.50	99.08	0.32	100.61	79.98
6975.00	1.16	56.21	6973.63	-16.88	17.79	99.48	0.31	101.06	79.86
7000.00	1.16	54.41	6998.62	-17.17	18.07	99.90	0.15	101.52	79.74
7025.00	1.19	55.47	7023.62	-17.46	18.37	100.32	0.15	101.99	79.62
7050.00	1.18	56.22	7048.61	-17.75	18.66	100.75	0.09	102.46	79.51
7075.00	1.15	53.13	7073.61	-18.03	18.95	101.16	0.28	102.92	79.39
7100.00	1.16	53.95	7098.60	-18.33	19.25	101.57	0.09	103.37	79.27
7125.00	1.21	57.22	7123.60	-18.62	19.54	101.99	0.33	103.85	79.15
7150.00	1.10	55.25	7148.59	-18.89	19.82	102.41	0.47	104.31	79.04
7175.00	1.22	53.79	7173.59	-19.18	20.12	102.82	0.52	104.77	78.93
7200.00	1.21	50.94	7198.58	-19.50	20.44	103.24	0.25	105.25	78.80
7225.00	1.26	54.84	7223.57	-19.83	20.77	103.67	0.38	105.73	78.67
7250.00	1.20	54.47	7248.57	-20.13	21.08	104.11	0.24	106.22	78.56

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
7275.00	1.13	52.28	7273.56	-20.43	21.38	104.52	0.34	106.68	78.44
7300.00	1.19	56.58	7298.56	-20.72	21.67	104.93	0.44	107.14	78.33
7325.00	1.18	53.64	7323.55	-21.01	21.97	105.35	0.25	107.62	78.22
7350.00	1.14	49.50	7348.55	-21.32	22.28	105.75	0.37	108.07	78.10
7375.00	1.15	44.00	7373.54	-21.66	22.63	106.11	0.44	108.50	77.96
7400.00	1.13	46.25	7398.54	-22.01	22.98	106.47	0.19	108.92	77.82
7425.00	1.17	46.09	7423.53	-22.35	23.32	106.83	0.16	109.34	77.68
7450.00	1.15	49.80	7448.53	-22.69	23.66	107.20	0.31	109.78	77.55
7475.00	1.24	50.58	7473.52	-23.02	23.99	107.60	0.35	110.24	77.43
7500.00	1.09	44.01	7498.52	-23.36	24.34	107.97	0.80	110.68	77.30
7525.00	1.13	46.70	7523.51	-23.69	24.68	108.32	0.28	111.10	77.17
7550.00	1.19	46.44	7548.51	-24.04	25.03	108.69	0.24	111.53	77.03
7575.00	1.10	48.68	7573.50	-24.37	25.36	109.06	0.43	111.97	76.91
7600.00	1.09	47.94	7598.50	-24.69	25.68	109.41	0.06	112.39	76.79
7625.00	1.08	49.02	7623.49	-25.00	26.00	109.77	0.09	112.81	76.68
7650.00	1.04	47.47	7648.49	-25.30	26.30	110.11	0.20	113.21	76.56
7675.00	1.07	49.94	7673.48	-25.60	26.61	110.46	0.21	113.62	76.46
7700.00	1.04	45.00	7698.48	-25.91	26.92	110.80	0.37	114.02	76.34
7725.00	1.05	54.89	7723.48	-26.20	27.21	111.15	0.72	114.43	76.24
7750.00	1.11	58.94	7748.47	-26.46	27.47	111.54	0.38	114.88	76.17
7775.00	1.07	61.09	7773.47	-26.69	27.71	111.96	0.22	115.33	76.10
7800.00	1.07	61.15	7798.46	-26.91	27.93	112.37	0.03	115.79	76.04
7825.00	1.05	66.45	7823.46	-27.11	28.14	112.78	0.40	116.24	75.99
7850.00	1.14	59.81	7848.45	-27.32	28.35	113.20	0.63	116.70	75.94
7875.00	1.02	61.62	7873.45	-27.55	28.59	113.62	0.50	117.16	75.88
7900.00	1.04	60.87	7898.45	-27.77	28.80	114.01	0.08	117.59	75.82
7925.00	1.04	61.78	7923.44	-27.98	29.02	114.41	0.07	118.03	75.77
7950.00	0.97	59.20	7948.44	-28.19	29.24	114.79	0.35	118.46	75.71
7975.00	1.07	67.76	7973.43	-28.39	29.43	115.19	0.74	118.89	75.67
8000.00	1.10	64.89	7998.43	-28.57	29.62	115.62	0.23	119.36	75.63
8025.00	1.01	62.07	8023.42	-28.77	29.83	116.03	0.41	119.81	75.58
8050.00	1.04	62.90	8048.42	-28.97	30.03	116.43	0.16	120.24	75.54

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
8075.00	1.05	62.93	8073.42	-29.18	30.24	116.84	0.02	120.69	75.49
8100.00	1.08	62.42	8098.41	-29.39	30.45	117.25	0.16	121.14	75.44
8125.00	1.03	64.66	8123.41	-29.59	30.66	117.66	0.28	121.59	75.40
8150.00	1.09	65.36	8148.40	-29.78	30.85	118.08	0.26	122.04	75.36
8175.00	1.04	64.07	8173.40	-29.97	31.05	118.50	0.24	122.50	75.32
8200.00	1.02	61.44	8198.40	-30.18	31.26	118.90	0.20	122.94	75.27
8225.00	1.07	64.32	8223.39	-30.38	31.46	119.30	0.27	123.38	75.23
8250.00	1.10	65.26	8248.39	-30.58	31.67	119.73	0.15	123.85	75.19
8275.00	1.01	62.85	8273.38	-30.77	31.87	120.14	0.40	124.30	75.15
8300.00	1.01	67.22	8298.38	-30.96	32.05	120.54	0.31	124.73	75.11
8325.00	0.97	63.57	8323.37	-31.13	32.23	120.94	0.30	125.16	75.08
8350.00	0.94	66.08	8348.37	-31.31	32.41	121.32	0.21	125.57	75.04
8375.00	0.90	68.82	8373.37	-31.46	32.56	121.69	0.23	125.97	75.02
8400.00	0.93	68.12	8398.36	-31.60	32.71	122.06	0.11	126.37	75.00
8425.00	0.93	68.28	8423.36	-31.75	32.86	122.44	0.01	126.77	74.98
8450.00	0.91	67.05	8448.36	-31.90	33.02	122.81	0.10	127.17	74.95
8475.00	0.99	71.13	8473.35	-32.04	33.16	123.19	0.39	127.58	74.93
8500.00	0.93	66.61	8498.35	-32.19	33.31	123.59	0.37	128.00	74.91
8525.00	0.93	68.57	8523.35	-32.34	33.47	123.96	0.13	128.40	74.89
8550.00	0.92	70.77	8548.34	-32.48	33.61	124.34	0.15	128.80	74.87
8575.00	0.79	69.40	8573.34	-32.60	33.74	124.69	0.50	129.17	74.86
8600.00	0.82	67.99	8598.34	-32.73	33.86	125.02	0.13	129.52	74.84
8625.00	0.72	72.88	8623.34	-32.84	33.98	125.33	0.47	129.86	74.83
8650.00	0.81	70.59	8648.33	-32.94	34.08	125.65	0.36	130.19	74.82
8675.00	0.77	65.23	8673.33	-33.07	34.21	125.97	0.32	130.53	74.81
8700.00	0.78	67.60	8698.33	-33.20	34.35	126.28	0.13	130.87	74.78
8725.00	0.77	69.47	8723.33	-33.32	34.47	126.60	0.11	131.21	74.77
8750.00	0.78	69.18	8748.33	-33.44	34.59	126.91	0.05	131.54	74.75
8775.00	0.76	70.54	8773.32	-33.55	34.71	127.23	0.13	131.88	74.74
8800.00	0.73	71.28	8798.32	-33.65	34.81	127.54	0.10	132.20	74.73
8825.00	0.78	70.99	8823.32	-33.76	34.92	127.85	0.19	132.53	74.72
8850.00	0.71	67.61	8848.32	-33.87	35.03	128.15	0.32	132.86	74.71

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
8875.00	0.65	70.32	8873.32	-33.97	35.14	128.43	0.27	133.15	74.70
8900.00	0.54	65.50	8898.31	-34.07	35.24	128.68	0.48	133.41	74.68
8925.00	0.53	66.62	8923.31	-34.16	35.33	128.89	0.06	133.65	74.67
8950.00	0.61	71.59	8948.31	-34.25	35.42	129.12	0.35	133.89	74.66
8975.00	0.54	72.62	8973.31	-34.32	35.50	129.36	0.28	134.14	74.65
9000.00	0.46	73.04	8998.31	-34.39	35.56	129.57	0.30	134.36	74.65
9025.00	0.41	68.43	9023.31	-34.45	35.63	129.75	0.24	134.55	74.65
9050.00	0.35	72.19	9048.31	-34.50	35.68	129.90	0.27	134.71	74.64
9075.00	0.34	69.58	9073.31	-34.55	35.73	130.05	0.07	134.87	74.64
9100.00	0.39	75.15	9098.31	-34.60	35.78	130.20	0.25	135.03	74.63
9125.00	0.42	69.09	9123.31	-34.65	35.83	130.37	0.21	135.20	74.63
9150.00	0.54	76.90	9148.31	-34.71	35.89	130.57	0.55	135.41	74.63
9175.00	0.93	88.75	9173.30	-34.74	35.93	130.89	1.67	135.73	74.65
9200.00	1.32	93.96	9198.30	-34.72	35.91	131.38	1.59	136.20	74.71
9225.00	1.52	96.76	9223.29	-34.65	35.85	132.00	0.87	136.78	74.80
9250.00	1.53	95.90	9248.28	-34.57	35.78	132.66	0.10	137.40	74.91
9275.00	1.37	98.50	9273.27	-34.49	35.70	133.29	0.69	137.99	75.01
9300.00	1.45	97.59	9298.27	-34.40	35.61	133.90	0.31	138.56	75.11
9325.00	1.47	99.18	9323.26	-34.30	35.52	134.53	0.19	139.14	75.21
9350.00	1.52	98.00	9348.25	-34.19	35.42	135.17	0.22	139.74	75.32
9375.00	1.56	100.92	9373.24	-34.08	35.31	135.84	0.35	140.35	75.43
9400.00	1.61	100.13	9398.23	-33.95	35.19	136.51	0.22	140.98	75.55
9425.00	1.61	105.03	9423.22	-33.79	35.03	137.20	0.55	141.60	75.68
9450.00	1.58	105.07	9448.21	-33.60	34.85	137.87	0.14	142.21	75.81
9475.00	1.65	106.35	9473.20	-33.40	34.66	138.55	0.31	142.82	75.95
9500.00	1.69	107.73	9498.19	-33.18	34.45	139.25	0.22	143.44	76.10
9525.00	1.72	112.33	9523.18	-32.92	34.19	139.94	0.56	144.06	76.27
9550.00	1.75	112.71	9548.17	-32.63	33.90	140.64	0.14	144.67	76.45
9575.00	1.77	112.30	9573.16	-32.33	33.61	141.35	0.08	145.29	76.63
9600.00	1.79	114.83	9598.14	-32.01	33.30	142.06	0.32	145.91	76.81
9625.00	1.84	115.85	9623.13	-31.66	32.96	142.78	0.24	146.53	77.00
9650.00	1.78	120.05	9648.12	-31.29	32.59	143.47	0.58	147.13	77.20

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
9675.00	1.80	118.05	9673.11	-30.90	32.21	144.16	0.27	147.71	77.40
9700.00	1.77	120.96	9698.10	-30.51	31.83	144.83	0.39	148.29	77.60
9725.00	1.88	122.67	9723.08	-30.09	31.41	145.51	0.50	148.86	77.82
9750.00	1.82	124.62	9748.07	-29.64	30.96	146.18	0.36	149.42	78.04
9775.00	1.80	127.74	9773.06	-29.17	30.50	146.82	0.40	149.95	78.26
9800.00	1.80	129.34	9798.05	-28.67	30.01	147.43	0.20	150.45	78.49
9825.00	1.77	131.91	9823.03	-28.16	29.50	148.02	0.34	150.93	78.73
9850.00	1.72	132.63	9848.02	-27.64	28.99	148.58	0.23	151.39	78.96
9875.00	1.71	132.40	9873.01	-27.13	28.49	149.14	0.03	151.83	79.19
9900.00	1.79	131.89	9898.00	-26.61	27.97	149.70	0.32	152.29	79.42
9925.00	1.77	132.28	9922.99	-26.09	27.45	150.28	0.12	152.77	79.65
9950.00	1.75	131.69	9947.97	-25.57	26.94	150.85	0.08	153.24	79.88
9975.00	1.80	132.44	9972.96	-25.04	26.42	151.43	0.20	153.71	80.10
10000.00	1.83	133.33	9997.95	-24.50	25.88	152.01	0.18	154.19	80.34
10025.00	1.88	134.17	10022.94	-23.93	25.32	152.59	0.22	154.68	80.58
10050.00	1.93	135.02	10047.92	-23.34	24.73	153.19	0.23	155.17	80.83
10075.00	1.95	134.58	10072.91	-22.74	24.14	153.79	0.09	155.67	81.08
10100.00	2.03	136.82	10097.89	-22.11	23.52	154.39	0.45	156.17	81.34
10125.00	2.15	137.29	10122.88	-21.44	22.85	155.01	0.46	156.69	81.62
10150.00	2.16	139.88	10147.86	-20.73	22.14	155.63	0.39	157.20	81.90
10175.00	2.12	140.43	10172.84	-20.01	21.43	156.23	0.18	157.69	82.19
10200.00	2.43	141.62	10197.82	-19.23	20.66	156.86	1.25	158.21	82.50
10225.00	2.47	143.59	10222.80	-18.38	19.81	157.50	0.38	158.75	82.83
10250.00	2.50	142.40	10247.78	-17.51	18.94	158.16	0.23	159.29	83.17
10275.00	2.58	142.93	10272.75	-16.62	18.06	158.83	0.33	159.85	83.51
10300.00	2.58	144.73	10297.73	-15.70	17.15	159.49	0.33	160.41	83.86
10325.00	2.72	144.40	10322.70	-14.75	16.21	160.16	0.56	160.98	84.22
10350.00	2.75	145.66	10347.67	-13.77	15.23	160.85	0.27	161.57	84.59
10375.00	2.74	146.97	10372.64	-12.77	14.23	161.51	0.26	162.14	84.96
10400.00	2.71	149.60	10397.61	-11.75	13.22	162.14	0.51	162.68	85.34
10425.00	2.80	149.21	10422.58	-10.71	12.19	162.75	0.39	163.20	85.72
10450.00	2.78	149.20	10447.55	-9.66	11.14	163.37	0.09	163.75	86.10

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
10475.00	2.83	149.00	10472.52	-8.60	10.09	164.00	0.22	164.31	86.48
10500.00	2.92	148.79	10497.49	-7.52	9.02	164.65	0.34	164.90	86.87
10525.00	2.89	150.02	10522.46	-6.43	7.93	165.29	0.27	165.48	87.25
10550.00	2.94	149.93	10547.43	-5.32	6.82	165.93	0.17	166.07	87.64
10575.00	2.79	150.51	10572.40	-4.23	5.74	166.55	0.58	166.65	88.03
10600.00	2.89	148.84	10597.37	-3.15	4.67	167.18	0.52	167.24	88.40
10625.00	2.81	152.17	10622.34	-2.07	3.59	167.79	0.74	167.83	88.77
10650.00	2.67	151.80	10647.31	-1.00	2.53	168.35	0.55	168.37	89.14
10675.00	2.63	151.56	10672.28	0.02	1.51	168.90	0.18	168.91	89.49
10700.00	2.70	149.67	10697.25	1.04	0.50	169.47	0.43	169.47	89.83
10725.00	2.64	151.54	10722.23	-2.06	-0.51	170.04	0.40	170.04	90.17
10750.00	2.56	151.44	10747.20	3.06	-1.51	170.59	0.32	170.59	90.51
10775.00	2.62	150.56	10772.17	4.05	-2.50	171.13	0.29	171.15	90.84
10800.00	2.67	150.44	10797.15	5.06	-3.51	171.70	0.19	171.74	91.17
10825.00	2.69	148.54	10822.12	6.08	-4.51	172.30	0.36	172.36	91.50
10850.00	2.64	148.96	10847.09	7.08	-5.51	172.90	0.22	172.99	91.82
10875.00	2.65	147.09	10872.07	8.06	-6.48	173.51	0.35	173.63	92.14
10900.00	2.65	144.86	10897.04	9.02	-7.44	174.16	0.41	174.32	92.45
10925.00	2.67	141.95	10922.01	9.96	-8.37	174.85	0.54	175.05	92.74
10950.00	2.74	140.17	10946.99	10.88	-9.29	175.59	0.44	175.84	93.03
10975.00	2.65	138.07	10971.96	11.78	-10.18	176.36	0.55	176.65	93.30
11000.00	2.66	136.22	10996.93	12.64	-11.03	177.15	0.35	177.49	93.56
11025.00	2.75	133.57	11021.90	13.48	-11.86	177.98	0.61	178.38	93.81
11050.00	2.69	130.62	11046.88	14.28	-12.66	178.86	0.61	179.31	94.05
11075.00	2.58	125.70	11071.85	15.00	-13.37	179.77	1.01	180.26	94.25
11100.00	2.59	124.20	11096.82	15.65	-14.01	180.69	0.27	181.23	94.43
11125.00	2.42	121.97	11121.80	16.26	-14.61	181.60	0.81	182.19	94.60
11150.00	2.31	118.48	11146.78	16.79	-15.13	182.49	0.72	183.12	94.74
11175.00	2.31	115.90	11171.76	17.25	-15.59	183.39	0.42	184.05	94.86
11200.00	2.11	114.15	11196.74	17.67	-16.00	184.26	0.82	184.96	94.96
11225.00	2.06	110.37	11221.72	18.02	-16.34	185.11	0.59	185.83	95.05
11250.00	2.00	107.00	11246.71	18.31	-16.63	185.94	0.54	186.68	95.11

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
11275.00	1.92	106.30	11271.69	18.57	-16.87	186.76	0.32	187.52	95.16
11300.00	1.89	103.39	11296.68	18.79	-17.08	187.57	0.41	188.34	95.20
11325.00	1.77	96.76	11321.67	18.93	-17.23	188.35	0.97	189.14	95.23
11350.00	1.67	93.74	11346.65	19.01	-17.29	189.09	0.55	189.88	95.23
11375.00	1.61	89.31	11371.64	19.04	-17.31	189.81	0.56	190.60	95.21
11400.00	1.55	84.81	11396.63	19.01	-17.28	190.50	0.54	191.28	95.18
11425.00	1.36	85.90	11421.63	18.96	-17.23	191.13	0.79	191.90	95.15
11450.00	1.50	83.95	11446.62	18.91	-17.17	191.75	0.60	192.52	95.12
11475.00	1.40	83.75	11471.61	18.85	-17.10	192.38	0.38	193.14	95.08
11500.00	1.27	85.90	11496.60	18.80	-17.05	192.96	0.56	193.71	95.05
11512.00	1.36	89.20	11508.60	18.79	-17.04	193.23	0.96	193.98	95.04